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TRANSACTIONS

OF THE

KENTUCKY STATE MEDICAL SOCIETY

EIGHTEENTH ANNUAL MEETING

HELD AT PADUCAH, KY., APRIL, 1873.

LOUISVILLE:
PRINTED BY JOHN P. MORTON AND COMPANY.
1873.

TRANSACTIONS

OF THE

KENTUCKY STATE MEDICAL SOCIETY.

FIRST DAY.

MORNING SESSION.

President Lewis Rogers, M. D., in the chair. The opening prayer by Rev. Bishop Wightman, of South Carolina, was followed by a chaste and touching address from that divine, paying a beautiful tribute to the spirit of charity and self-abnegation which he had through life found to mark the character of every true member of the medical profession.

The following members were in attendance: Drs. Lewis Rogers, Turner Anderson, J. M. Keller, Edward Richardson, J. J. Speed, J. A. Larabee, J. L. Gordon, D. S. Reynolds, and E. S. Gaillard, of Louisville; H. F. McNary and P. B. McGoodwin, of Princeton; D. D. Thompson and J. W. Thompson, of Paducah; P. Y. McCoy, of Columbus; Oscar Newland, of Hopkinsville; S. A. Foss, of Lacona; Jas. Lowry, of Shelbyville; R. H. Gale, of New Liberty; J. S. Wise, of Covington; Geo. T. Erwin, of Danville; J. W. Singleton, of Florence Station.

In behalf of the profession and citizens of Paducah Dr. Joseph W. Thompson, chairman of the Committee of Arrangements, then welcomed the Society to his beautiful young city in the following words:

Gentlemen of the State Medical Society:

In behalf of the Southwestern Kentucky Medical Society, the medical profession, and citizens of Paducah, I heartily welcome you to our city.

We are aware that we can not entertain you as has been done on some occasions elsewhere, but we hope to cause you to pass the time so that you will not regret your sojourn with us.

We know that your annual reunions have for the most part been pleasant and profitable, and it is our desire that this meeting shall be none the less so, and that your visit will be remembered by all with pleasure.

For the first time this end of the state has been honored with a meeting of your distinguished body, and we are not insensible to the compliment in selecting Paducah for your present session. By this meeting you will add valuable and honorable members to the Society—medical men worthy and competent to become useful co-laborers. This is gratifying to us, for we should all feel an interest in advancing the welfare of the State Medical Society.

Repeated meeting with the members of the profession in this section in our District Society, which is one of the largest and best working organizations of the kind in the state, proves that it is our earnest wish that this body may maintain an elevated position; that it may enforce the code of ethics, which, if carried out, must harmonize with the most elevated ideas of a true physician or a generous and noble mind. Time has proved that the rigid enforcement of law and just discipline has not only been successful, but for the most part has meted out justice. We therefore hope that this Society will enforce the laws of the code, and thereby do its part in maintaining the standard of our noble profession, to which is intrusted the health and temporal happiness of our fellow-beings.

We meet annually for the interchange of opinion and experience, and in this way collect facts which are to be applied to the relief of suffering humanity, and also to perform our duty in endeavoring to elevate our profession to its proper position.

We must not be discouraged because charlatanism is to some extent countenanced in every country. If we review the history of medicine, we will see that as education and civilization have advanced quackery has declined. We will also observe that empiricism is generally fostered by the illiterate portion of communities. We can therefore reasonably hope that with the progress of learning charlatanism will ere long be the curse of the ignorant and uncivilized only.

For the past year we as a body have great reason to be thankful to the Supreme Ruler of the universe—the greatest of all physicians—for the protecting shield he has thrown around us. Death has not, to my knowledge, visited our ranks since we last assembled. At some of our meetings we have had to mourn the loss of distinguished comrades; for this state has produced medical men whose abilities place them high upon the roll of fame throughout the civilized world.

Heretofore we have not had facilities for prompt traveling and economizing time, which is important to medical men engaged in active practice; but by means of recent improvements we can now easily reach any portion of the state. These advantages will bring a larger number of us together, and it is to be hoped that our numerical increase will redound to the good of our profession and add to the pleasure of our annual reunions.

In conclusion, let me again assure you, gentlemen, that it is the earnest desire of those whom I represent that you will accept a warm and hearty welcome to our midst.

Dr. J. M. Keller then offered the following:

Resolved, that the Committee on Ethics shall consist of three members instead of one as heretofore, and that the appointment of this committee, together with the Committee on Credentials, shall be the first duty of the chair at the opening session.

Dr. Keller explained his reasons for introducing this resolution, which, being seconded by Dr. E. Richardson, was adopted unanimously.

The chair then appointed the following committees:

On Credentials—Dr. D. A. Maxwell, of Paducah; Dr. Oscar Newland, of Hopkinsville; and Dr. S. A. Foss, of Lacona.

On Ethics—Dr. J. M. Keller, of Louisville; Dr. R. H. Gale, of Owen; and Dr. R. Saunders, of Paducah.

Dr. J. M. Keller proposed the name of Dr. J. W. Singleton for membership.

Dr. J. M. Keller desired to call the attention of the Society to the resolution offered by himself at the last meeting, amending article 3, section 2, of the constitution, as follows:

Resolved, that in lieu of section 2, article 3, of the constitution the following be inserted:

"SEC. 2. Every candidate for membership, whether permanent, temporary, or honorary, must be a graduate of a regular medical school in good standing of a county, city, or local medical society which adopts for its government the code of ethics of the American Medical Association, provided such local society exists.

"The credentials necessary to satisfy the committee that such is the applicant's standing shall be a certificate from such local society, signed by the president and secretary. If no such local society exists in the county, city, or town in which the applicant lives, he shall present his petition in writing, indorsed by two members of the State Medical Society who can testify to his professional and social standing.

"In either case, upon a favorable report from the Committee on Credentials, the applicant shall be balloted for, and if he receives four fifths of the votes of all the members present shall be declared a member.

"This is understood to apply to the present members as well as to future applicants for membership."

The chair decided that the consideration of this resolution was not at this time in order.

On motion of Dr. J. W. Singleton, Dr. Keller was given permission to explain the object of his resolution.

Dr. Reynolds objected to the retrospective feature of the proposed amendment. He favored the resolution except so far as it applied to the present membership and the

names of applicants for membership now before the Committee on Credentials.

Dr. Keller believed that if the name of any one was before the committee who refused to join or held himself aloof from his local society, he should not be received by this society.

The President thought the proposed amendment an *ex post facto* law, and that the constitution and laws of the Society were ample for regulating its present membership.

Dr. Gale moved to strike out the retrospective clause, which motion was carried. The resolutions so amended were then voted upon, and unanimously adopted.

Dr. Thos. Rivers and Dr. J. L. Dismukes were proposed and elected members of the Society.

A letter from Dr. Ulrich, Secretary *pro tem.* at last meeting of the Society, was read, exculpating himself from blame in regard to inaccuracies and faults of the proceedings of last year, as well as from errors of fact in the record, as inferred from an article published in the Richmond and Louisville Medical Journal.

Dr. E. S. Gaillard stated that he would not insist upon having the published minutes of the last meeting corrected, as they had not been read or adopted by the Society. He disclaimed having any ill feeling toward the former Secretary, and moved that a vote of thanks be tendered Dr. Ulrich for his services; which motion was adopted.

A letter from Dr. Barnes was read, regretting his inability to be present at the meeting, and stating that Dr. Reynolds would present his report on Insanity.

Dr. Gale moved that Dr. Barnes's report on Insanity be received, and referred to the Publishing Committee without being read.

The Secretary, Dr. Larrabee, hoped the motion would not prevail, but that all papers presented should be read.

The President deprecated the reference of papers to the Publishing Committee without reading, believing that such a course would detract from the interest of the meeting.

Dr. Gale withdrew the motion.

A letter was read by the Secretary from Dr. Paul Rankin, of Georgetown, which had been forwarded to him by Dr. Rodman, former Secretary of the Society.

Dr. Gale stated that Dr. Rankin had died recently, and moved that a committee be appointed to prepare a memoir of the deceased.

Drs. J. S. Offutt, of Georgetown, W. B. Rodman, of Frankfort, and D. N. Porter, of Eminence, were appointed said committee.

Dr. Gale offered the following resolutions:

1. That this Society deeply laments the death of its distinguished and honored member, Dr. Paul Rankin, during the past year, and that assurance of sincere condolence be presented to the family of the deceased.

2. That the committee appointed to prepare a memoir of our deceased brother be directed to incorporate these resolutions in their report.

The published Transactions of the medical societies of Wisconsin and Pennsylvania were presented to the Society through the Secretary.

Dr. D. D. Thompson moved that the thanks of this Society be returned to the societies of Pennsylvania and Wisconsin for their courtesy. Adopted.

Dr. Richardson regretted the contrast between the small volume of our Transactions as compared with the published Transactions of other state societies.

The Secretary presented to the Society some histological plates which had been received from the War Department.

Dr. Gaillard moved that the thanks of the Society be tendered to the Surgeon-general for this valuable acquisition. He regarded them as the finest microscopic specimens in existence. Adopted.

The report of Dr. L. P. Yandell, sr., chairman of the committee to prepare a memoir of the late Dr. J. T. Bradford and Dr. Hugh Rodman, was received, and read by the Secretary, Dr. Yandell not being in attendance. The report, on motion, was referred to the Publishing Committee with instructions.

The Committee on Credentials reported favorably on the following applicants for membership, viz.: Drs. R. W. Gaines, R. M. Fairleigh, W. G. Wheeler, of Hopkinsville; Dr. O. B. Withers, of Parkersville; Dr. W. H. Anderson, of Louisville; Drs. J. A. Carr, T. L. McNary, of Princeton; Dr. W. D. Senter, of Lovelaceville; Drs. Bernard Tauber, E. B. Richardson, D. A. Maxwell, J. W. Becker, of Paducah; Dr. John F. Anderson, of Fulton; Dr. A. C. Voories, of Hickory Grove; Dr. J. W. Singleton, of Florence Station; Drs. R. C. Brandeis, Willoughby Walling, of Louisville; Dr. H. M. Lowry, of Shelbyville; Dr. R. Reed, of Boaz Station; Dr. S. P. Hayne, of Maxwell's Mills.

The report of the committee was received, and the above-named gentlemen were duly elected.

Reports of special committees being in order, Dr. S. A. Foss, of Jefferson County, chairman of the Committee on Registration, read his report.

Dr. Singleton moved that the report on registration be referred to the Publishing Committee with instructions.

Dr. Gaillard offered the following resolutions as a substitute for Dr. Singleton's motion:

1. That the chairman of the Committee on Registration be requested to prepare a petition from the medical profession of the state of Kentucky to the legislature, said petition embodying the facts set forth in the report.

2. That the members of this Society here present be requested to sign this petition.

3. That the Corresponding Secretary of this Society be requested to bring this matter before the county medical societies, and asking their co-operation by the sending of corresponding petitions.

4. That the Corresponding Secretary of this Society be requested to send to each member now present a proper circular for appending his signature to the petition, or authorizing the same to be done.

Committee on Laryngoscope, no report.

Committee on Fistula in Ano, no report.

Committee on Dermatology, no report.

Committee on Gynecology, no report.

Committee on Defects of present System of Medical Education, no report.

Committee on Hypodermic Medication, no report.

Committee on Post-partum Hemorrhage, no report.

Committee on Pathology, no report.

Committee on Hydrophobia, no report.

Committee on Ovariotomy, no report.

Committee on Recent Improvements in Ophthalmic Surgery, Dr. Reynolds reported.

Committee on Insanity and Diseases of the Nervous System, Dr. Barnes reported.

Committee on Electricity, no report.

Committee on the Therapeutic Properties and Uses of Oxygen Gas, no report.

Committee on Vital Statistics, Dr. D. T. Smith, of Louisville, reported through Dr. T. Anderson.

Committee on Botany, no report.

Committee on Surgery, Dr. J. W. Thompson, chairman, reported.

Committee on Finance, Dr. Joseph Smith, chairman, reported through the Secretary.

Committee on Ethics, no report.

Committee on Hygiene, no report.

Committee on Epidemics, no report.

Committee on Obstetrics, Dr. Eli McClellan, U. S. A., reported.

Adjourned to meet at three o'clock P. M.

AFTERNOON SESSION.

Society met at three o'clock P. M. Dr. Lovelace was proposed for membership by Drs. Singleton and Maxwell.

Dr. J. M. Keller desired to call the attention of the Society to a bill now before the legislature of the state to legalize dissections. This bill, known as Wright's House-bill, had twice passed the lower house, but had each time been defeated in the senate, as he believed, in a great measure by the opposition of a member of that body claiming to be an M. D. Dr. D. R. Haggard, the senator alluded to, claimed to be a member of this Society, but Dr. K. was glad to be informed by the Secretary that his name was not on the roll of its members. Dr. Keller believed that this body should give an expression of its feelings in regard to the necessity of the passage of such a bill, and would therefore offer the following:

Whereas, at each session of the General Assembly of the state of Kentucky, for years past, earnest but futile endeavors have been made by the various members of the medical profession of the state to have enacted what is known in other states as a dissection bill; and

Whereas, there is now pending in the senate a bill known as the Wright Bill, which has already passed the house, and which bill is violently opposed by Senator Dr. D. R. Haggard, who openly declares that he will oppose any bill looking to legalizing dissections, and who, claiming to be a member of the medical profession, and to reflect and express the wishes and necessities of the profession, may again defeat it; therefore be it resolved:

1. That the bill known as the Wright House-bill fully expresses the wishes and necessities of the regular profession of the state.

2. That the State Medical Society hereby respectfully petition the General Assembly now in session to pass said bill, so amended as not to apply to any insane asylum, blind asylum, feeble-minded institution, or other institution not known as a hospital for paupers.

The resolutions were passed unanimously.

A motion was made and carried that the foregoing resolutions be forwarded to Senators Gilbert, Talbot, and Darby.

The President said he was under the impression that the recognition of the chair of anatomy in our schools and colleges was a virtual legalization of dissection.

Dr. Keller stated that demonstrators of anatomy had been frequently arrested and held in heavy bonds in the city of Louisville.

Dr. E. Richardson moved that in case the funds of the Society were inadequate to defray the expenses of publishing the Transactions, an additional assessment of two dollars shall be levied on each member. Motion adopted.

Dr. Larrabee thought there would be sufficient funds without the levy.

The Committee on Credentials reported favorably upon the following gentlemen, who were duly elected members:

Dr. J. R. Luton, Wesley; Dr. Reuben Saunders, Paducah; Dr. L. M. Lovelace, Millburn; Drs. J. Baker, D. Slaughter, and R. F. Logan, Shelbyville.

Dr. Bernard Tauber read a paper on the Therapeutic Properties of Electricity.

Dr. R. C. Brandeis read a paper on the Laryngoscope.

The following gentlemen were appointed by the chair as a Committee on Nominations: Dr. J. J. Speed, Louisville; Dr. H. F. McNary, Princeton; Dr. James Lowry, Shelbyville; Dr. Thos. Rivers, Ballard County; Dr. J. L. Dismukes, Graves County; Dr. O. B. Withers, Lyon County; Dr. John Anderson, Fulton; Dr. R. W. Gaines, Christian County; Dr. S. A. Foss, Jefferson County; Dr. R. H. Gale, Owen County; Dr. P. Y. McCoy, Hickman County; Dr. J. A. Maxwell, Paducah.

On motion, adjourned until half past seven o'clock P. M., to meet at the Presbyterian Church.

EVENING SESSION.

Prayer by Rev. Mr. Hendricks.

President Dr. Lewis Rogers then delivered his address. At the close of the President's address Dr. E. Richardson, of Louisville, read a paper on Medical Education.

On motion, session adjourned to assemble at half past nine o'clock A. M. on the following day.

SECOND DAY.

MORNING SESSION.

Pursuant to adjournment the meeting was called to order. Minutes of the previous meeting were read and approved.

Dr. J. M. Keller desired to amend his resolutions offered yesterday in reference to the Dissection Bill, so as to include a resolution of thanks to members of the state legislature who had been most active in advocating the said bill.

Dr. E. Richardson did not object to the vote of thanks providing all the friends of the bill were included. He did not believe it just to designate some by name, who, although exerting more influence and more active in their advocacy of the bill, were not better friends of the measure than some not mentioned. He thought such a resolution should be made applicable to all who were friendly to the measure.

Dr. Speed desired to offer a motion as a substitute for Dr. Keller's amendment. Dr. Speed then moved that the thanks of this body be tendered to all the members of the state legislature who were friendly to the bill alluded to. Adopted unanimously.

Dr. J. W. Singleton proposed Dr. W. H. Sanders, of Smithland, for membership, recommended by himself and Dr. Maxwell.

Dr. Singleton also proposed Dr. W. K. Bowling, of Nashville, as an honorary member of this Society. Dr. S.

accompanied his nomination of Dr. B. with some complimentary remarks touching the character and standing of Dr. Bowling. On ballot, Dr. Bowling was elected.

The Secretary read the following letter from the Southwestern Medical Society of Kentucky:

We, a committee appointed by the Medical Society of Southwestern Kentucky to address a memorial to your honorable body, would respectfully represent that there are in this district and state many persons, without education or experience, claiming to be physicians and surgeons who are frauds and quacks upon the people. That this class of persons, by flaming advertisements and other methods of exciting their credulity, win the confidence of the unwary who place themselves under their charge. The result is a decided harm to the sick by medicines in many cases entirely unsuited to their ailments; in others by nostrums possessing no remedial qualities whatever, the patients becoming victims of these Shylocks who prey upon human flesh and blood. That such quacks are a great damage to the interests of the state and to those who have labored through years to qualify themselves to administer to the sick.

That the entire interest of society demands that these vampires should be driven from the state, the medical profession protected in their hard-earned rights, and the citizens of this commonwealth freed from their impositions.

That other states have formed laws for the protection of their people and their physicians against the local and predatory quacks who are so detrimental to the interests and welfare of mankind.

We, the committee, in behalf of the Society we represent, respectfully petition you to draw a memorial to our state legislature as will prevent the impositions above mentioned on the people of this commonwealth, and grant legitimate protection to those who labor honestly and truly for the benefit of mankind.

O. B. WITHERS,
S. T. PAYNE,
M. H. CARSON,
D. A. MAXWELL,
JNO. R. DISMUKES,
BERNARD TAUBER,
E. B. RICHARDSON,
Committee.

On motion, the President was authorized to appoint a committee of five to take into consideration the grievances referred to in the above letter, and to memorialize the legislature of the state thereon. The following gentlemen were appointed on said committee: Dr. O. B. Withers, of Parksville, Lyon County; Dr. D. A. Maxwell, of Paducah; and Dr. R. H. Gale, of Owen County.

A report from the chairman on Obstetrics, Dr. Eli McClellan, of the United States Army, was received through the Secretary. The paper, entitled "Some Obstetric Procedures among certain of the Aborigines of North America," was read, and on motion of Dr. Turner Anderson referred to the Publishing Committee with instructions to publish.

Dr. Dismukes took exceptions to the Society instructing the Committee on Publication in regard to the disposal of any paper read before it. He thought the duties of that committee were well defined, and that the publishing or non-publishing of papers was entirely at the discretion of that committee.

Dr. Anderson modified his motion by substituting "request" instead of "instruct," which motion was adopted.

Dr. A. B. Wayne, a member of the State Medical Society of Tennessee, was on motion of Dr. Maxwell invited to a seat.

Dr. J. J. Speed read a paper on "History in Disease." On motion, Dr. Speed's paper was referred to the Committee on Publication.

The Committee on Credentials reported favorably on Dr. W. H. Sanders, of Smithland; Dr. E. W. Woodson, of Woodville; and Dr. John Trout, of Benton, for membership. The report was received and the gentlemen elected.

The Committee on Nominations reported the names of the following gentlemen to fill the various offices for the ensuing year, who were duly elected:

For President.....Dr. J. W. Thompson, of Paducah.
Senior Vice-president.....Dr. J. M. Keller, of Louisville.
Junior Vice-president.....Dr. R. M. Fairleigh, of Hopkinsville.
Recording Secretary.....Dr. J. A. Larrabee, of Louisville.
Corresponding Secretary..Dr. J. D. Jackson, of Danville.
Treasurer.....Dr. L. B. Todd, of Lexington.
Librarian.....Dr. D. S. Reynolds, of Louisville.
Publication Committee. Dr. Turner Anderson, Dr. Edw. Richardson, Dr. Coleman Rogers, } of Louisville.

Dr. Speed made some remarks in regard to the importance of the registration law.

Dr. Keller moved that the Secretary be instructed to have one thousand circulars printed before the adjournment of the Society, said circulars to be headed with Dr. Foss's report, and a blank left for obtaining signatures, the same to be distributed to the members now present, with the request that they procure as many signatures among their brother practitioners in their respective localities as possible. Motion adopted.

The Secretary was directed to pay for the printing of the above circulars out of the funds of the Society.

Meeting adjourned to half past three o'clock P. M.

AFTERNOON SESSION.

Dr. Singleton read a paper on Conservative Medicine, which was referred to the Publishing Committee.

Dr. James Lowry extended an invitation on behalf of the physicians and citizens of Shelbyville, asking the

Society to meet at that place next year; whereupon Dr. Gale offered the following resolutions, which were adopted:

Resolved, that when this Society adjourns it does so to meet at Shelbyville on the first Tuesday in April, 1874.

Resolved, that we return our sincere thanks to the members of the medical profession and to the citizens of Paducah for the uniform kindness and hospitality shown to the members of the Society during this meeting.

Dr. J. M. Keller offered the following amendment to the constitution, which lies over for one year:

Resolved, that hereafter the Kentucky State Medical Society will adopt the custom and ruling of the American Medical Association to the extent that in future, in the regular annual meetings of the Society, the same sections on the varied branches of the profession that exist in the American Medical Association will be observed at the State Medical Society.

The motion offered by Dr. L. P. Yandell, jr., at the last meeting of this Society, amending the constitution by striking out the word "Botany" from the list of standing committees, and substituting "Dermatology" therefor, was taken up and passed.

On motion, the name of Dr. A. B. Cook, of Louisville, who had been expelled by his local society, was stricken from the list of members.

The following chairmen of standing committees were announced by the President.

Committee of Arrangements...Dr. James Lowry, Shelbyville.
Committee on Vital Statistics.Dr. John D. Jackson, Danville.
Committee on Obstetrics.....Dr. John Goodman, Louisville.
Committee on Epidemics.....Dr. James S. White, Covington.
Committee on Surgery.....Dr. R. F. Logan, Shelbyville.
Committee on Finance.....Dr. Joseph Smith, Lexington.
Committee on Improvements in Practical Medicine.... Dr. Edward R. Palmer, Louisville.
Committee on Hygiene.....Dr. J. W. Singleton, Florence Station.
Committee on Ethics.....Dr. J. M. Keller, Louisville.
Committee on Dermatology...Dr. L. P. Yandell, jr., Louisville.

The following chairmen of special committees were announced:

Committee on Glioma of Retina.....Dr. J. Hale, Owensboro.
Committee on Fistula in Ano.....Dr. Turner Anderson, Louisville.
Committee on Immovable Dressings.....Dr. J. M. Keller, Louisville.
Committee on Medical Literature of Kentucky.....Dr. L. P. Yandell, sr., Louisville.
Committee on Phthisis Pulmonalis.....Dr. D. A. Maxwell, Paducah.
Committee on Diseases of Children.....Dr. D. D. Thompson, Paducah.
Committee on Summer Complaints of Children.....Dr. J. A. Larrabee, Louisville.
Committee on Diseases of the Conjunctiva.Dr. D. S. Reynolds, Louisville.
Committee on Aural Surgery.....Dr. E. B. Richardson, Paducah.
Committee on Syphilis.....Dr. H. M. Lowry, Shelbyville.
Committee on Venereal Diseases.....Dr. H. T. Barnes, Louisville.
Committee on Diseases of Throat.....Dr. R C. Brandeis, Louisville.
Committee on Diseases of Chest.....Dr. Bernard Tauber, Paducah.
Committee on Calculus of Female Bladder.Dr. R. H. Gale, Owen County.
Committee on Cerebro-spinal Meningitis..Dr. J. L. Dismukes, Mayfield.
Committee on Therapeutic Properties of Oxygen Gas.....Dr. F. C. Wilson, Louisville.
Committee on Gynecology.....Dr. J. Hale, Owensboro.
Committee on Hypodermic Medicine.....Dr. W. A. Atchinson, Bowling Green.
Committee on Post-partum Hemorrhage..Dr. Wm. Bailey, Louisville.
Committee on New Remedies.....Dr. Coleman Rogers, Louisville.
Committee on Medical Electricity.....Dr. J. W. Holland, Louisville.
Committee on Registration.....
Dr. S. A. Foss, Jefferson County.
Dr. John D. Jackson, Danville.
Dr. Geo. Beeler, Clinton.
Dr. Geo. Perkins, Somerset.

Dr. Speed spoke of the immorality and excesses attending the custom of banqueting at the close of our sessions, and hoped that the custom would either be modified or dispensed with altogether. He favored the admission of ladies to our banquets, as having a restraining and elevating influence.

Dr. Gale thought we ought not to disregard the hospitalities of citizens who were kind enough to prepare such sumptuous feasts for our enjoyment.

On motion, it was unanimously voted that hereafter ladies should be admitted to the banquets.

A letter was read from Dr. Joseph Smith regretting his unavoidable absence from the meeting. Also a letter from Dr. L. B. Todd, regretting his inability to be present on account of sickness in his family.

The following resolution was read and adopted:

Resolved, that the thanks of this Society are hereby tendered Mr. J. H. Ashcraft, Assistant United States Marshal of Paducah, for his kind attention in furnishing a comfortable room for its meeting, and for his individual courtesy and urbanity to its members.

The following gentlemen were appointed delegates to the American Medical Association to meet at St. Louis May 6, 1873:

Dr. Geo. Beeler,	Clinton, Hickman Co.
Dr. W. A. Atchison,	Bowling Green.
Dr. S. W. Luton,	Hickman County.
Dr. R. H. Gale,	Owen County.
Dr. J. M. Lovelace,	Ballard County.
Dr. P. Y. McCoy,	Hickman County.
Dr. E. Richardson,	Louisville.
Dr. J. S. Bryant,	Lexington.
Dr. J. Hale,	Owensboro.
Dr. D. A. Maxwell,	Paducah.
Dr. Chas. Mann,	Nicholasville.
Dr. E. McClellan,	Lebanon.
Dr. J. D. Jackson,	Danville.
Dr. Geo. T. Erwin,	Danville.
Dr. J. A. Larrabee,	Louisville.

Dr. J. W. Thompson desired to obtain the views of those present in regard to the nature and treatment of cerebro-spinal meningitis, which was at present quite prevalent and fatal in some parts of this state.

Dr. Larrabee regarded this subject as one of great importance, well deserving the attention of the Society.

Dr. E. Richardson believed that the causation and pathology of epidemic cerebro-spinal meningitis—some-

times called spotted fever — differed from the sporadic cerebro-spinal disease often met with. He believed that this plague, which visited communities with such fatal results, was *primarily* a blood-disease, and that the lesions of the cerebral and spinal membranes were the result of this blood-poisoning. He had seen only the worst forms of the disease, and could say nothing in favor of remedies.

Dr. Larrabee, although not prepared to discuss the question fully, remarked that cerebro-spinal meningitis, like all new epidemic diseases, has been the subject of various theories and conjectures, and perhaps the best evidence of the unreliability of theories at first entertained is the uncertain treatment based upon them. It is due to our profession to say that careful, patient, and untiring bedside observation, together with the study of pathological anatomy by the aid of the scalpel, has in this, as it will in most diseases, put to flight errors founded upon conjecture, and although we may not be able with our materia medica to cope successfully with so potent a destroyer, our efforts at least should be in the right direction. From the observation of a large number of cases seen in hospital and private practice he had arrived at the following conclusions:

1. That whatever might be the cause of this disease, whether malarial in origin or not, the symptoms manifested throughout its entire course are explained by local lesions found after death in the brain and spinal cord. The paralysis and loss of some of the special senses, so often present in cases which have survived the disease, are the results of inflammation of the nerve-centers. The invasion of this disease is sudden and attended by rigors more or less marked. Among the earliest symptoms is the perverted and exalted nervous sensibility, characterized by great restlessness. An eruption is present in the majority of cases after two or three days. In his cases it was either herpetic or

urticarious in character. The skin, which at first is the seat of exalted nervous sensibility, becomes quite insensible to the touch, but afterward a condition of anæsthesia exists. Death usually occurs with coma or œdema of the lungs.

A false and deceptive convalescence is often set up after the acute symptoms have subsided, which means that the sufferer has been spared a sudden death in the acute stage to drag out weeks and perhaps months of marasmus. There can be no favorable prognosis while the opisthotonus continues. In many cases the position in which the head rests between the shoulders constitutes the most marked symptom.

2. This disease is endemic and not contagious. The most destructive epidemics recorded have been at places and in seasons where there has been an unusual amount of cold and wet. He hoped that the committee appointed by the Society to report upon this disease would be especially careful to describe the localities in which it occurred.

3. The treatment adopted thus far by the profession is, considering the mortality, highly unsatisfactory. Many cases are beyond treatment when first seen by the physician. In others the course of the disease is so rapid that no treatment avails. Counter-irritation is advisable, and he would especially recommend the oil of mustard, or dry cups along the course of the spine. The internal administration of atropia per os or subcutaneously promises the best results, and will, if the disease is seen sufficiently early, be of the greatest advantage.

Dr. L. then spoke of the well-known effects of belladonna upon the blood-vessels of the brain, and ergot upon those of the spinal cord, as shown by Brown-Séquard and others. He thought the combination of these two agents might be attended with good results. The iodide and bromide of potassium at a later period of the disease might be of use in aiding the absorption of morbid products and securing sleep. He thought favorably of conium on account of its influence over the circulation. He had never seen quinine exercise any influence over the evening exacerbations, and thought it objectionable to be giving too

many remedies. General blood-letting is certainly contra-indicated in a disease so well marked by symptoms of exhaustion, and where there is such complete anorexia the pulse is not generally over one hundred per minute and the temperature not greatly increased.

Dr. Dismukes did not desire to say much on this subject at present, as he was expected to report at the next meeting. He would only remark that he had treated some cases with good results by general blood-letting, quinine, and some of the salts of potash.

Dr. Rivers had used opium and quinine with good results.

The President was not prepared to discuss the subject of cerebro-spinal meningitis as fully as its great importance demanded. He would submit, however, a few words:

As to the essential nature of the affection, the received opinion is that it is an idiopathic fever. If so, local complications of an inflammatory kind involving the nervous centers rapidly ensue. The lesions found upon post-mortem examination indicate disorganizing processes of an intense but cacoplastic character. Clinically and therapeutically the disease should be viewed as of a mixed nature, primarily an idiopathic blood-disease leading with precipitation to inflammatory results of a fearful kind. Upon this view, which accords in some degree with that expressed by Dr. Larrabee, treatment should be based. As to the cause or causes of the disease, its history is by no means clear. Some facts point very strongly to its pythogenic origin. The map appended to the monograph by Dr. Meredith Clymer on cerebro-spinal meningitis illustrates this point very forcibly. Those parts of the city of New York distinguished for their filth, over-crowding, and other sources of impurity were the favorite seats of this disease. Whether such insalubrious conditions were exciting or merely predisposing causes, they afford an instructive lesson. If merely predisposing, some inscrutable agent co-operating with them in the development of the disease, by removing such causes the unknown agent will be shorn of

much of its power. As to treatment, the President had little to offer. All forms of treatment had been vainly tried. He thought that atropia, which had been useful in the hands of some, was entitled to respect upon its supposed mode of physiological action through the vaso-motor nerves. For like reason the ergot would commend itself. The ergot should be used in the form of fresh powder, and not in that of fluid extract or other uncertain preparations. He had confidence in extensive counter-irritation and revulsion by cups and rapid vesication. Anodynes are essential for the mitigation of intense pain frequently present, and he had been compelled to resort to chloroform by inhalation and hydrate of chloral. Opium in all forms and modes of administration had failed to accomplish good in his cases, and had led to a more speedy coma. Quinine, tincture of the chloride of iron, and bromide of potassium were remedies he had found sometimes useful. In a disease so little amenable to curative treatment he thought that sanitary measures looking to prevention should be more vigorously carried out in those localities where the disease existed. A close and searching scrutiny might detect local conditions essentially concerned directly or remotely in the causation of the disease. He would emphatically commend all possible regard to this view of the subject.

Dr. J. W. Thompson said that this disease was known to prevail in healthy and cleanly districts in the country as well as in crowded and filthy localities of cities.

On motion, the thanks of the Society were tendered to the Secretary for the faithful discharge of duty.

The Society adjourned to meet at Shelbyville on the first Tuesday in April, 1874.

LEWIS ROGERS, *President.*

J. A. LARRABEE, *Secretary.*

ADDRESS OF THE PRESIDENT.

BY LEWIS ROGERS, M. D.

Gentlemen of the Kentucky State Medical Society:

I esteem it a very high honor to be the presiding officer of the Kentucky State Medical Society, an association composed of members, past and present, many of whose names are among the most distinguished of this country. I deem myself specially fortunate in being permitted to enjoy this honor in the prosperous and hospitable metropolis of Western Kentucky. I am pleased with the centrifugal movement which this meeting inaugurates. Heretofore we have met in the more central parts of the state; hereafter we may indulge the hope that the members from the remote parts will more fully participate in our proceedings, and contribute the result of their varied observation and study to the common stock. I am sure that I shall not be mistaken in the expectation that this meeting in Paducah will add greatly to the future usefulness of the Society by enlisting new and zealous workers who have not heretofore been associated with us.

As the time for our annual reunion approached, my mind became somewhat solicitous as to the subject of this address. What shall I or what can I write about that had not been presented to you in a more attractive form than I felt that it was possible for me to present it, was naturally a question of much anxiety to me. The subject of medical education was "a thrice-told tale." In all of its many important phases,

as connected with medical schools and office instruction, it had been discussed over and over again much more ably than I could discuss it. This would not do. And so in regard to the amount and the kind of education which should be required as preliminary to the study of medicine. This had formed the vexed topic of many an interesting debate before this body and elsewhere. Sanitary science, in all of its wide range, had often been pressed upon your attention and disposed of as it should be. I could add nothing to it. And so again with the Anatomy Bill, with the law for the government of apothecaries, and many other matters of equal and even greater moment. They all have reference to the present or future interests of the public and the profession, and I have felt so sure that they would continue to command the public and professional mind until their beneficent purposes were accomplished that I could but deem it unprofitable to raise my voice in their behalf.

The history of medicine in Kentucky, the remarkable record which the profession has made since the very infancy of the state, are topics which may be recalled with just pride and very great pleasure. I propose to speak of some of these by-gone things as "Facts and Reminiscences of the Medical History of Kentucky." Many of the facts are already familiar to you in a fragmentary form; it may not be unprofitable or uninteresting to view them in a group. My own reminiscences may be received for what they are worth.

Whatever may be the present status of Kentucky medicine—and I hold that it is high—the past at least is secure. When Kentucky was to a large extent a wilderness, and not yet wholly free from hostile incursions of the Indians, when the population was so sparse as scarcely to give encouragement to any educational enterprises except such as were necessary for the simplest branches of learning, the interests of medicine were not only not neglected but received conspicuous regard.

In 1798 "Transylvania Seminary" and the "Kentucky Academy" were united under one board of trustees, with the name of "Transylvania University," and in 1799 law and medical departments were added to the academical. Dr. Samuel Brown was appointed the first professor of medicine in Transylvania, and the *first* in the West. Dr. Francis Ridgely was appointed a professor in the University shortly after Dr. Brown, and was the *first* to deliver a course of medical lectures in the West. From 1899 to 1817 various appointments were made in the medical department, and partial courses of lectures were delivered. During this interval, among the locally-distinguished men who were appointed to professorships, none were more remarkable than Dr. Joseph Buchanan. He died in Louisville in 1829; and I call up from the memories of my boyhood, with great distinctness, his slender, flexible form, massive head, and thoughtful, intellectual face. He was a man of great and varied powers of mind. He was a mechanical, medical, and political philosopher. His "spiral" steam-boiler, the prototype of the exploding and exploded tubular boiler, and his steam land-carriage, were among the wonders of the day. As a physician, his papers attracted distinguished notice from the medical *savans* of Philadelphia, then the great center of medical science. As a political writer, he was deemed worthy to discuss, and did discuss with power and effect, the momentous problems of special and general political economy agitating the country at the stirring period when Clay, Webster, John Quincy Adams, John C. Calhoun, and Andrew Jackson were the ruling spirits. Dr. Buchanan was then editor of the Louisville Focus, a post for which he was selected by the discerning mind of William W. Worsley, the founder of the Louisville Focus and of the great publishing-house of John P. Morton & Co. If Dr. Buchanan had concentrated his wonderful mind upon some one of the great branches of medicine, he would have added much to the luster of Kentucky medicine. "His full nature, like that river of which

Alexander broke the strength, spent itself in channels which had no great name on the earth."

In 1817 a full course was given in Transylvania to a class of twenty pupils, and in the spring of 1818 the degree of M. D. was conferred for the *first* time in the West. John Lawson McCullough, of Lexington, was the *first* graduate in medicine in the valley of the Mississippi. History thus assigns to Kentucky the honor of inaugurating the teaching of scientific medicine in the West. The first to begin, she has occupied the most prominent position in this field of education to the present time. Her schools have been the most popular, her classes the largest, her professors the most learned, her graduates the leading practitioners of the South and West, her influence upon practical medicine and surgery greater than that of all other schools.

Ranck's History of Lexington states "that vaccination had been introduced for several years in Lexington by Dr. Samuel Brown, of Transylvania, when the first attempts at it were being made in New York and Philadelphia. Up to 1802 he had vaccinated upward of five hundred persons in Kentucky." This invaluable discovery was announced by Jenner in 1798, and we find it successfully introduced into the backwoods of the West, by Kentucky enterprise, before 1802. The Kine-pock Institution of New York was established in 1802.

The Eastern Lunatic Asylum has long enjoyed a distinguished place among institutions of the kind in this country. Dr. W. S. Chipley, for so many years the eminent superintendent of this asylum, has made it known at home and abroad by his valuable reports and other papers upon mental alienation. This asylum was founded in 1816, under the name of the "Fayette Asylum." It was the *first* ever established in the western country, and the *second* state asylum opened in the United States.

In connection with the history of medicine pertaining to Lexington, Dr. B. W. Dudley must ever occupy a conspic-

uous place. Distinguished in every branch of surgery, he was particularly eminent, as we all know, as a lithotomist. If not the first surgeon to perform this operation in Kentucky and the West, he was the first lithotomist in the number and successful results of his cases of the period in which he lived. His fame was co-extensive with surgical literature.

If Kentucky had conferred no other benefaction upon mankind, the operation of ovariotomy performed for the *first* time by Dr. Ephraim McDowell, of Danville, in 1809, would entitle her to immortal honor. I believe that no one now denies to Dr. McDowell the originality of this heroic surgical achievement. Every surgeon in this country concedes it. In a conversation which I had, in 1865, with a number of eminent surgeons of Great Britain, among whom may be mentioned Mr. Spencer Wells, Mr. Baker Brown, and Sir James Syme, no one had any reserve on the subject except Mr. Syme. While he did not deny the claim of Dr. McDowell, he did not admit it. It is not a little amusing sometimes to notice with what reluctance European writers recognize the great works of American surgeons and physicians. In a recent article in the Edinburgh Review upon the progress of medicine and surgery, the operation of ovariotomy is fully discussed without the mention of Dr. McDowell. Mr. Spencer Wells is made the hero of the operation.

The value of this operation can be better estimated by the statistics of eminent specialists. It is to be viewed as a remedy for a disease of utter hopelessness, if permitted to pursue an undisturbed career. Medicines have no influence over it. Though a few may live many dreary years, the average duration of ovarian tumors is from two to three years. Dr. McDowell operated thirteen times, as far as can be ascertained. He preserved the lives of six out of seven of his first patients. How many of the other cases were successful is not known, though it is certain that several were saved. Up to June last Mr. Wells's ovariotomies numbered 500, with 128 deaths. From March, 1870, to April, 1871,

he had a succession of 32 cases in private practice without one death. Dr. Keith, of Edinburgh, up to July last had operated 146 times, with only 26 deaths. Dr. W. L. Atlee, of Philadelphia, has operated about 300 times. Mr. Clay, of Manchester, up to December, 1871, had operated 250 times, with 182 successes. The results may be tabulated, so as to be seen more clearly:

Spencer Wells,	73.25 per cent.	Kimball, . .	66.11 per cent.
Clay,. . . .	72.80 "	Dunlap,. . .	80.00 "
W. L. Atlee, .	71.00 "	Peaslee,. . .	67.85 "
Bradford, . .	90.00 "	Thomas, . .	66.66 "

Keith has attained the highest success yet achieved in Europe, having saved 81 of his first 100 cases, and 30 of his next 36 cases. In the United States the general average is 63 per cent., in Great Britain 60, in France 50, in Germany 41.66. Spencer Wells thinks the average will yet be 90 per cent. of cases in private practice, without excluding those extreme cases in which the operation is performed as a forlorn hope.

My purpose in presenting these details is to call attention to the fact that Dr. Taylor Bradford, of Augusta, Ky., has *already* attained the 90 per cent. success which Wells thinks *may be* ultimately attained. In Kentucky, where the operation was first performed, the *highest* success has been reached.

Peaslee presents the great benefits conferred by ovariotomy in the following words: "It may be shown that in the United States and Great Britain alone ovariotomy has within the last thirty years directly contributed more than thirty thousand years of active life to woman, all of which would have been lost had ovariotomy never been performed."

The Institution for Deaf-mutes, in Danville, Ky., was founded in 1823. It was the first institution of the kind established in the West. It followed closely upon those of Hartford, New York, and Philadelphia. From a small beginning it has become a noble and most beneficent school.

Mr. Jacobs, so long its superintendent, has made it known throughout the civilized world. The results attained in the education of deaf-mutes are astonishing. They no longer speak by a manual alphabet or manual signs only, but are trained to utter their thoughts in articulate sounds wonderfully perfect.

Dr. McDowell and Mr. Jacobs have given the name of Danville an illustrious perpetuity, and bequeathed to their successors in that beautiful town a reputation which their pride should be emulous to sustain. It is not an undeserved eulogium to say that Dr. John D. Jackson and his associates of the Boyle County Medical Society uphold very ably the prestige already acquired.

Dr. Alban Goldsmith was an assistant to Dr. McDowell in several of his ovariotomies, and operated himself one or more times. He visited Europe at the time that Civiale was attracting great attention to his original operation of lithotripsy. Dr. Goldsmith, under the teachings of this master, perfected himself in this specialty; and returning to his home in Kentucky operated on a gentleman in Lincoln County in 1829, the *first* operation of lithotripsy ever performed in Kentucky or in the United States. Dr. Goldsmith, desiring a wider field for his labors, removed to Louisville in a short while. In that city I had the pleasure of seeing him operate in this special way and in other branches of surgery. While residing in Louisville he conceived the project of another medical school, recognizing the importance of a large hospital and its clinical facilities in the teaching of medicine and surgery. To carry out this admirable design he procured from the legislature, in 1833, the charter of the "Medical Institute" of Louisville. A faculty was organized, but did not lecture. When a portion of the faculty of the Medical Department of Transylvania University seceded from that school, in 1837, they organized under the charter of the institute, and continued to act under it until the University of Louisville was chartered, in 1845. Dr. Goldsmith may thus

be considered the legal founder of a school so long sheltered by his charter.

From Louisville Dr. Goldsmith removed to Cincinnati, and for a time was professor of surgery in one of the schools of that city; but finally settled permanently in the city of New York, pursuing to the close of his life the special branch of surgery in which he was so skilled. His son, Professor Middleton Goldsmith, is well known to the profession of this state as an able teacher and practitioner of surgery.

Dr. Gross, in his report on Kentucky Surgery, made to this Society in 1852, remarks: "In the treatment of hernia Kentucky may justly claim the credit of having effected one most valuable improvement. The truss invented by Mr. Stagner, and afterward modified by Dr. Hood, has acquired a world-wide celebrity. The value of the invention of Stagner and Hood can be fully appreciated by those only who are familiar with the nature and treatment of hernia, and with the state of our knowledge thereof prior to their time."

In the same report Dr. Gross records "that some years ago Dr. Bowman, of Harrodsburg, showed me an instrument for injecting the parts immediately around the abdominal canals and apertures with a weak solution of iodine and other articles. It was constructed upon the principles of an ordinary syringe, with an extremely delicate nozzle, intended to be introduced through a small opening in the skin. The instrument was successfully used in several cases." We here find the hypodermic syringe foreshadowed, if not actually invented. When Wood published his first papers on the subject of hypodermic medication I carried out the practice, with the syringe having a delicately-curved nozzle used by dentists, in the treatment of an obstinate case of lumbago. Dr. S. Brandeis, of Louisville, imported the first hypodermic syringe ever used in Kentucky, as he also did, through me, in 1862, the first laryngoscope.

The Louisville Marine Hospital was founded in 1817, and was among the first of the great public charities in the valley

for sick and disabled marines. It was sustained partly by taxes upon sales at auction, and partly by a fund created, under a law of the United States, from weekly or monthly sums paid by all sailors navigating the Ohio and other western rivers. This institution was admirably managed. Its trustees were selected from the best citizens of Louisville, and its physicians and surgeons were the *élite* of the profession—mature men engaged in a large and busy private practice. Among them I recall the names of Drs. Richard Ferguson, George W. Smith, Coleman Rogers, Joseph Middleton, John P. Harrison, R. P. Gist, and Llewelyn Powell. Conspicuous in this medical staff, for personal virtues, for the qualities of the Christian gentleman, for all of the attributes of the accomplished physician, it gives me pleasure to single out for special notice Dr. Harrison. My earliest recollections of medicine are associated with this remarkable man. I knew him well, and his history has always been a favorite theme with me. In this hospital he labored very faithfully, and laid the foundation of a medical career of great usefulness and distinction. Kentucky never produced a more worthy son. He was an assiduous worker at the bedside and in the dissecting-room. He spent many of the long winter nights in the study of all forms of anatomy by minute and careful dissection. Not content with the modicum of anatomical knowledge acquired while attending his several courses of lectures, it was his custom to revise this important branch of study every winter. As a boy, I was often his companion in the fourth story of the hospital. Dr. Harrison was a general as well as a medical scholar. He delighted in all kinds of polite literature. He was peculiar in his habits of reading. The lighter works of general literature occupied his leisure hours in the warm summer months, while the long winter evenings were devoted to the severer studies of the sciences. He was never idle. Of an ardent and active temperament, he could not be idle. He was a man of the purest personal and professional honor. Toward his professional brethren

he bore himself with fastidious care. In medical ethics he was a martinet. There were subordinate qualities about Dr. Harrison which should and can pertain to every physician. Every one can not be tall and graceful in form as Dr. Harrison was, with dark hair and complexion and keen gray eyes; but every one can have agreeable manners, a dignified bearing, and be neat in dress and person. Dr. Harrison was always so. He dressed simply but elegantly, and every thing about him looked the refined gentleman. His office was attractive, the furniture good and in order, the books in his large library systematically arranged. When his patients called upon him they were impressed by these things. His horse was always well groomed, his harness bright, and his gig perfectly clean. In all regards he sustained the respectability of his calling. These personal details may seem unworthy of notice in an address like this, but they have an important moral. I am sure that the influence and usefulness of medical men in cities, villages, and country places are materially lessened by inattention to such matters as were striking qualities of Dr. Harrison. Personal qualities are often tokens of professional character. Slovenly dress, unkempt hair, a dirty office, with a few broken chairs and a rickety table with a dusty slate on it, are not likely to inspire the sick with pleasant ideas of their medical adviser. Such conditions spring from and react upon the character of the physician.

Dr. Harrison kept himself fully up with the advances of medicine. The first stethoscope I ever saw, and the first one brought to Kentucky, was imported by him. It was of the pattern originally devised and made by Laennec himself, and was in my possession for many years. Dr. Harrison talked of going to Europe to study this new physical diagnosis of diseases of the chest, but was for a time skeptical as to the reality of Laennec's great revelations.

In this connection my memory calls up the interesting fact that Prof. Henry M. Bullitt, of the Louisville Medical

College, was the first physician in Kentucky, as far as I am informed, to carry the stethoscope into the daily study of his cases. He returned from Philadelphia in 1838, having become an expert in this method of diagnosis, under the teachings of Gerhard and Pennock. I was then pursuing the same study in the wards of the Marine Hospital, and owe my first advances to the instruction of Dr. Bullitt. Dr. Bullitt brought with him, besides this practical knowledge, a mind thoroughly and ardently imbued with Louis's inductive method of studying disease. This method, substituting carefully-ascertained facts and the results inductively evolved from them for mere closet theories, was then bringing about a thorough revolution in the science of medicine. In this Dr. Bullitt played an efficient part by his pen and his teachings.

Dr. Harrison appreciated at an early day the importance of clinical medicine, and was among the first in the West to give clinical lectures, in the wards of the Marine Hospital, to a class of students. The clinical advantages of Louisville caused him to look to that city as the future seat of a great medical school.

In 1834 Dr. Harrison removed to Philadelphia to find a more suitable theater for the realization of his ambitious purposes. He was called very soon, however, to fill an important chair in one of the schools of Cincinnati. While teaching here, and for many years before, his pen was prolific in the production of valuable papers on various medical subjects. As a teacher of materia medica he was distinguished for his sound and practical therapeutics. He was an able practitioner, and brought before his class the ripe fruits of his extensive experience. He published a "Treatise on Materia Medica and Therapeutics," the first and only systematic work on this subject by a western physician. The practical portions of this work are excellent, and worthy of all respect even at the present day. The book is remarkable as being probably the last ever published in this country in which the

doctrines of pure solidism are asserted and those of humoralism opposed. The idea of the absorption of medicines by the blood-vessels is vehemently rebuked.

In 1838 Dr. Charles Caldwell delivered the first clinical lectures of the University of Louisville in the wards of the Marine Hospital. I was his clinical assistant. In 1839 the *first* clinical amphitheater ever founded in the West was attached to this hospital. From that room, for more than thirty years, the practical lessons of Drake, Gross, Eve, J. B. Flint, Bartlett, Ethelbert Dudley, Annan, Austin Flint, Palmer, Hardin, Middleton Goldsmith, D. W. Yandell, and their associates and successors, have been diffused throughout the length and breadth of this country.

Dr. Samuel L. Metcalfe, who died in Philadelphia in 1856, had a scientific character of which Kentucky may well be proud. Though known to many of the older physicians, he is possibly unknown to some of the junior members of the profession. In 1833 Dr. Metcalfe published, at New York, a treatise, entitled "A New Theory of Terrestrial Magnetism," containing speculations of a remarkable character, and contending for the identity, in certain relations, of heat, electricity, and magnetism. In it were the germs of the great philosophical theory called "the correlation of forces," now received by the scientific world. This book was reviewed by Dr. T. S. Bell, in the Louisville Journal, shortly after it was published, and pronounced the first work of its kind on the subject.

In 1838 this work was expanded into a noble treatise, entitled "Caloric: its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature." Dr. Metcalfe took the manuscript to London and endeavored to find a publisher. One was at last found, who agreed to publish it provided the author would permit him to submit the manuscript to the inspection and approval of a scientific reader employed for such purposes. The manuscript was kept for some weeks, and after many calls Dr. Metcalfe succeeded in recovering it,

with the information that the judgment of the reader was unfavorable. Prof. J. B. Flint was in London at the time, purchasing the library for the Medical Department of the University of Louisville, and to him Dr. Metcalfe communicated these facts; with the additional statement that he had ascertained beyond a doubt that Michael Faraday was the reader to whom his manuscript had been submitted. The doctrine of "the correlation of forces," which forms a conspicuous element of the fame of Faraday, was clearly and cogently taught in this new work of the Kentucky philosopher; and prior to the time that Dr. Metcalfe's manuscript was perused by him he had never taught any thing of the kind. In 1843 Dr. Metcalfe published his treatise in two large volumes. It was received in Europe with an unusual amount of favor. In 1853 a second edition was published, a copy of which is owned by my distinguished friend, Dr. T. S. Bell.

Dr. Metcalfe resided near Simpsonville, Shelby County, while in Kentucky. The state, and especially the medical men, have abundant reason to cheerish his well-earned fame. His reputation was so firmly established in Europe that he was importuned to become a candidate for the Gregorian Chair in the University of Edinburgh, which he declined.

In January, 1843, Dr. Wm. A. McDowell, a cousin of the great ovariotomist, and one of his aids in the performance of his operations, published an octavo volume of two hundred and sixty-nine pages, entitled, "A Demonstration of the Curability of Pulmonary Consumption in all of its Stages." Dr. McDowell removed to Louisville some years anterior to this date, with a name and prestige which soon won for him an excellent practice in all the branches of medicine. Pulmonary consumption was one of his favorite subjects, and he soon put forth the claim of unusual success in the treatment of this disease. Such unusual results were announced as to excite in the minds of his professional friends an unjust suspicion of charlatanry. When his book appeared it

was received not only with incredulity but with severe and sneering criticisms. Time, however, has done justice to Dr. McDowell's character and claims. The work, though defective in literary merit, crude in many of its ideas, and asserting powers for many medicines which they do not possess, contained not only the germ but the substance fully developed of the therapeutics of consumption now considered orthodox. He states that he first derived the views which he inculcates, modified by what he denominates the *antipodal* plan, from Dr. Joseph Parrish, of Philadelphia. To quote the language of his preface: "We concluded upon combining his theory with an antipodal plan which we ourselves had determined to adopt, consisting of a course of dietetics and regimen calculated to produce acquired gout; for we regarded gout as the extreme athletic or tonic morbid condition, consumption as the extreme atonic." Though this mode of presenting the subject be crude and coarse when compared with our more refined and seemingly more recondite rationale of treatment, the same great analeptic truth underlies both. I have no doubt that Dr. McDowell cured many cases of genuine phthisis pulmonalis, and prolonged the lives of many more, as the tonic and restorative plan, now universally adopted, is well known to do. His book was in advance of the times in this country certainly, and I do not know that a formal presentation of the subject had then been made in Europe. Dr. J. Hughes Bennett, of Edinburgh, and other distinguished co-workers, were beginning to inculcate very strongly the same method of treatment, but had not given a published form to their views. This book of Dr. McDowell's has not secured the place in the literature of pulmonary consumption to which its intrinsic merit entitles it.

The Kentucky Institution for the Blind was incorporated in 1842. The movement for such a school in our state was inaugurated by Dr. S. G. Howe, of Massachusetts, who had so successfully begun the beneficent work in the latter state.

Kentucky was among the first to follow the example of the "Old Bay State." From its foundation to the present time this institution has been an object of just pride. Much of its progressive success has been due to an eminent member of our profession. "To inaugurate a great charity is a noble work; but to watch over it, to foster it, to stand by it from the beginning, to be its firm friend through every disaster and its counselor in every emergency, to give it unwearied attention for over thirty years, and sacrifice to its good an incalculable amount of anxious thought and valuable time, is surely equally noble. Such services the state of Kentucky has received from Dr. Theodore S. Bell." This is the testimony of one who is familiar with the devotion of this remarkable man to this institution. I can add my own testimony to the same effect. In my many professional drives in the direction of the Blind Asylum I rarely fail to meet Dr. Bell making his daily visit to his pet institution. By his efforts the Bible was stereotyped, and a copy given to every worthy pupil of the school. Kentucky enjoys the honor of being the first state in the world to make a provision by law of this kind.

The history of the Blind Asylum has a bright page for this constant friend. The history of Kentucky medicine for the last forty years will also devote to him a large and varied space. Ever busy, working more hours every day and sleeping fewer than any one I ever knew, there is scarcely a department of medicine upon which he has not left his impress. As a public hygienist, as a medical philosopher and journalist, as a controversial writer, as a practitioner and teacher, he has long occupied and now occupies a conspicuous position. Seemingly untouched by time, he is to-day as fresh and strong in physical and mental power as he ever was.

Kentucky was one of the first states of the West, probably the very first, to comprehend the incalculable value of a careful registration of the marriages, births, and deaths

of her citizens. The importance of such registration, fully appreciated by many of the states of Europe and by a few in this country, was ably set forth in Kentucky, and impressed upon the public and legislative attention, with great force and effect by the first regular president of this Society, Dr. W. L. Sutton, of Georgetown. In effecting the passage of a very perfect law, by the legislature of 1851–2, he was ably re-enforced by Dr. W. S. Chipley, of Lexington, and Dr. T. S. Bell, of Louisville. It will not be deemed immodest in me to say that a "Lecture on Sanitary Reform," delivered by me to the medical class of the University of Louisville at the opening of the session of 1851–2, and published by the class, had some influence, by the logic of its statistics, in determining the passage of the act. Dr. Sutton was the first registrar, and most successfully carried the law into execution. Before, however, even a partial realization of the great results anticipated by him, Dr. Sutton was removed by death from this sphere of public usefulness, and was succeeded by Dr. S. M. Bemiss, now of New Orleans. Dr. Bemiss proved to be a worthy follower of Dr. Sutton. He carried the work forward with zeal and ability, and his reports attracted much attention both at home and in foreign countries. The war of 1861 put an end to this as to all other civil pursuits, and since its close the law has not been revived. It is a reproach to the intelligence of the state, and most deeply damaging to her interests, that it has not been restored.

Dr. Sutton was one of the ablest men of the profession in Kentucky. Plain, modest, practical, an excellent observer, a good writer, and a sound practitioner, the state has produced few superior to him. In sanitary science he was the foremost man among us. His brochure on Typhoid Fever and a few other papers on medical subjects gave him high rank in medicine proper.

In 1854, T. G. Richardson, M. D., then Demonstrator of Anatomy in the Medical Department of the University of Louisville, published a work entitled "Elements of Human

Anatomy: General, Descriptive, and Practical." This was the first and only systematic treatise of the kind ever published in the valley of the Mississippi. It consisted of one volume octavo, 734 pages and 269 illustrations, with several marked improvements in the arrangement of its subjects, and with the unique feature of "substituting English for Latin terms wherever this appeared to be practicable and judicious." Dr. Richardson subsequently became a professor in one of the schools of Philadelphia, and is now a distinguished professor and practitioner of surgery in New Orleans, Louisiana.

"Gross's Pathological Anatomy," the first systematic work on the subject ever published in the United States, illustrated by colored engravings and 250 wood-cuts, pp. 822, was issued in 1839, while Dr. Gross was Professor of Surgery in the Medical Institute of Louisville. A work on the "Surgical Diseases of the Air-passages" and the great work on Surgery by the same distinguished author constitute no small part of the medical fame of Kentucky.

In October, 1846, ether was first used by inhalation as an anæsthetic. In the winter or spring of 1847 Dr. Joshua B. Flint administered it for the first time in Kentucky, and possibly in the West, in an amputation of a lower limb performed by him in the presence of a number of professional friends. I was present. The ether was then called "letheon," and administered by the aid of a complicated inhaler.

Chloroform was first brought forward by Sir James Y. Simpson, as a substitute for ether, in November, 1847. It was used for the first time in midwifery in the city of Louisville, and as far as is known in the state of Kentucky, by Prof. Henry Miller, on the 20th of February, 1848.

Prof. S. D. Gross was the first surgeon in Louisville to use chloroform as an anæsthetic in surgery. He operated upon a servant under its influence in the family of Thos. P. Smith, removing a large tumor.

Professor Miller was a pioneer in several other important branches of his specialty. In an able and very candid paper, denominated "Retrospect of Uterine Pathology and Therapeutics in the United States, especially in regard to intra-uterine medication in chronic internal metritis," published by Dr. Miller in 1871, it is certainly established that he was the first in the West to use the speculum uteri systematically in the treatment of diseases of the os and cervix uteri. This was as early as 1835, a period when the speculum was almost unknown practically to the profession in any part of the United States. The first speculum was brought to Louisville by Dr. Allan P. Elston, a distinguished young physician, who after a residence in Europe for several years returned to Louisville and resumed his professional labors. Failing health compelled him to retire after a short but honorable career. Dr. Miller was present when Dr. Elston examined one of his patients in the Work-house Hospital, and becoming enamored of the speculum forthwith devoted himself to this interesting branch of surgery. It is needless for me to tell this audience with what distinguished results. For a time the treatment by the aid of the speculum was limited to the os and cervix uteri. In 1843 Dr. Miller extended this local treatment still deeper, and made applications to the cavity of the organ. In the paper above mentioned he proves conclusively that he was in advance of every one else in the United States in intra-uterine medication. Kentucky justly claims priority in both forms of uterine therapeutics.

Dr. Miller is the author of the first systematic work upon midwifery ever published in the West, a work which ranks in original thought and practical value among the best ever published.

Kentucky has been ever prompt to obey the requirements of philanthropy. Under the wise counsels and benevolent influence of Robert W. Scott, the legislature, in 1860, founded the Kentucky Institution for the Education of Feeble-minded Children and Idiots. This is the only institution of the kind

south of the Ohio River. There are several in the North, which have undoubtedly achieved surprising results in elevating the mental status of these unfortunate beings. They who have not observed the amount of mental improvement which may be effected by systematic training, in subjects who seem to be hopelessly feeble, would scarcely credit the real results. Our own institution promises to be a benefaction worthy of generous encouragement.

The Louisville College of Pharmacy was established in August, 1870. It has organized a school of pharmacy, with efficient professors, to teach the theory and practice of pharmacy, materia medica, chemistry, and the collateral sciences. Such an institution has long been needed in Kentucky, and there now exists no reason why every apothecary should not be a graduate of this or some other equally worthy college, and his qualifications fully ascertained, before he is permitted to dispense medicine. The interests of the public, no less than of the profession, demand the enactment of such a law.

On the 28th of March, 1872, the legislature of Kentucky passed an act incorporating the "Central Kentucky Inebriate Asylum." This asylum is intended for the medical treatment, control, and restoration of the inebriate. It is invested with the power to receive and retain all inebriates who enter it, either voluntarily or by the order of the committee of any habitual drunkard. The committee of the person may keep him in the asylum at discretion. This act does not indicate by what power this committee is created. Some previous law must exist; and I presume that an act, approved March 18, 1872, to provide for the preservation of the estates and security of persons of unsound mind, who by habitual or excessive use of poisonous drugs have become incompetent to manage themselves or estates with prudence and discretion, supplies the defect or provides for it. This act empowers the circuit or chancery court of the county to appoint a committee of one or more persons to take charge of any person who

by the habitual or excessive use of opium or hasheesh, or any other drug, has become incompetent to manage himself or estate. The fact of such incompetency must be brought before the court by affidavit of two or more respectable persons, and an inquest must be held by a jury in open court to inquire into the fact. The committee of custody and control is invested with the power to confine such person in any private asylum or in one of the lunatic asylums of this commonwealth. It will be observed that this act specifies opium, hasheesh, or any poisonous drug, but does not mention by name *alcohol* and its preparations. A fair and scientific construction would include these; yet a doubt is left, and difficulty might spring up if any one chose to contest the point and insist upon a literal interpretation of the law. Habitual and inveterate drunkenness is certainly one of the forms of insanity. It is a condition in which the will is under the mastery of the passions. It is recognized by the best authorities as insanity, and has received the names of dipsomania and oinomania. The interests of the individual and of the entire community would be advantageously consulted if this view of drunkenness were carried into practical effect, and the drunkard made amenable to the law which is applied to the ordinary lunatic. Whether the asylum just incorporated be one merely for voluntary confinement or one to which a jury may send any proper subject, Kentucky has led the advance, as far as I am informed, in this direction, in the valley of the Mississippi.

It is a creditable fact, reflecting the estimate in which Kentucky medicine is held by the profession of the United States, that our state has directly furnished two presidents of the American Medical Association, in the persons of Drs. Henry Miller and David W. Yandell, and indirectly a third, in the person of Dr. S. D. Gross, all members of this Society. No member of the profession in this country has received more honors at home and more foreign decorations than Dr. J. Lawrence Smith, another member of this Society.

The establishment of a new school in 1837, and of several others at later dates, led to important results in the history of Kentucky medicine. These schools have been the means of developing and bringing into more conspicuous position many of our own most gifted physicians, and have invited from other places some of the most eminent physicians of the United States. Among the former may be mentioned Bush, Peter, Ethelbert Dudley, Miller, Powell, Hardin, Richardson, Bullitt, the Yandells, Foree, Breckinridge, Cummins, Bell, Bemiss, Bayless, Bodine. Among the latter, Bartlett, Silliman, J. B. Flint, Drake, Cobb, Colescott, Austin Flint, sr., Eve, Gross, Palmer, J. Lawrence Smith, Middleton Goldsmith. Some of the best contributions to American medicine and surgery were made by several of these gentlemen while they were connected with the schools of Kentucky, and these may be fairly considered as belonging to the medical literature of our state. If all of the works were not written here, much of the matter which gives them interest was obtained while their authors were connected with the schools and hospitals of Louisville. This is particularly true of the works of Gross, Drake, and Austin Flint.

Connected with the schools of medicine which have existed in Kentucky many reminiscences of men and things arise in my mind. Among the most pleasant of these is my recollection of Dr. Wm. H. Richardson, so long the professor of obstetrics in Transylvania. Few men ever had nobler traits of character. He was warm-hearted, brave, and a sincere friend. I knew him from my earliest boyhood, and have passed many happy and instructive hours at his magnificent home in Fayette County. His hospitality was profuse and elegant. I listened to his public teachings as a professor with interest and care, because I knew that he taught the truth as far as he possessed it. He was not scholarly nor graceful and fluent as a lecturer; but he was ardent and impressive, sufficiently learned in his special branch, and had at his ready command a large stock of ripe personal expe-

rience. I honor his memory beyond that of most men whom I have known.

I have often recalled with wonder the supreme satisfaction with which I looked upon the whole science and art of medicine, after listening to one course of lectures by Dr. John Esten Cooke, for so many years the venerable incumbent of the Chair of Practice in Transylvania and in the University of Louisville. Few teachers ever held such sway over the minds of intelligent professional men as Dr. Cooke over the entire medical mind of the valley of the Mississippi. Every one entertained profound respect for his great intellect and general learning, for his purity of character and honesty of purpose. His theory of medicine was peculiar to himself, and elaborated with great care. It seemed to be built upon an impregnable logic. It was dogmatically taught, and carried captive the minds of the hundreds of young men who listened to his positive enunciations. There were no graces of oratory about him, yet he had a subtile way of infusing the poison of his false doctrines which could not be resisted. These doctrines were of singular simplicity and universal adaptedness. The practice growing out of them, so long dominant in the South and West, was equally simple and adaptable. Three familiar medicines constituted the trinity of his practical creed. Quinia and opium were not known in his materia medica. With the retirement of Dr. Cooke, in 1844, a new medical era commenced in the wide region over which his teachings so long prevailed; and now not a vestige of either his theory or practice remains, except in the pages of his book and in the minds of a few of the ancient members of the profession.

Who that ever saw Dr. Charles Caldwell can fail to have a living remembrance of him? Who that ever listened to him as a teacher can fail to recall with admiration the great intellect, the varied scholarship, the beauty and power of pen, the polished eloquence of the grand old man? He impressed every one by the stateliness of his personal appearance. He

looked a very monarch, as, with scepter waving in his hand, he moved majestically along.

Dr. Caldwell was largely instrumental in carrying the Medical Department of Transylvania to its high point of prosperity. He was one of the great levers by which the School of Louisville was elevated to a still loftier position. By reason of certain attractive qualities, and peculiar powers foreign to pure medical teaching, he was eminently successful as an architect of medical schools. Despite these facts, the truth of history compels the averment that he was never a teacher of true *practical* medicine, nor of that kind of medical philosophy which forms the useful medical mind. In these regards he has not left an enduring record in the annals of Kentucky medicine.

While Dr. Caldwell was yet holding a conspicuous place as a medical teacher a revolution was going on in the whole science of medicine. Old medicine was expiring and new medicine taking its place. Before the pressure of professional opinion created by this revolution Dr. Caldwell, like his old colleague, Dr. Cooke, retired from professorial life in 1849.

When the trustees of the Louisville Medical Institute were organizing the first faculty, in 1837, Dr. Caldwell, the chief artificer of the enterprise, was furnished with *carte blanche*, and sent on a mission to find a professor of surgery. A careful search eventuated in the selection of Dr. Joshua B. Flint, of Boston, Mass. Dr. Flint was a graduate of the Academic and Medical Department of Harvard. He was indorsed to Dr. Caldwell, by the best men of Boston, as a mature and thorough general and medical scholar, as a conservative, skillful surgeon, and as an acceptable teacher. He was tendered the chair of surgery in the institute, accepted it, and sundering his many ties in Boston came to Louisville and united his fortunes with our school and our people. The impression which he made upon the profession in Louisville was favorable in the highest degree. He disclosed qualities

which at once commanded confidence and respect. He was quiet and modest, avoiding rather than courting conspicuous notice. His fine scholarship, literary and professional, made itself evident to all appreciative observers. He was not ostentatious in this regard. His sound judgment as a practitioner of surgery and his rare dexterity and coolness as an operator were readily recognized. In the field of operative surgery he was distinguished, beyond all other men of his time, for his conservatism. Many limbs and parts were saved by him which would have been lost by less considerate surgeons. He did not desire the *eclat* which great surgical feats elicit.

As a teacher, Dr. Flint came forward at a time when medicine and medical teaching were in a transition stage; when mere theories were giving place to facts, and things were taught and not mere speculations. His style was quiet, eminently and purely didactic. He was not a declaimer, had no *ad captandum* arts, said nothing for effect merely or to elicit applause. His lectures derived their ornament from correct rhetoric and classical illustrations. They were never soiled by coarse anecdote or indelicate allusions. He was a dignified teacher of the facts and truths of a serious science. He did not seek popularity with his classes. He hoped to win their confidence and approval by giving them sound instruction. Possibly he made the distance too great between the master and the pupil. This had not been the usage in this wild western country. It was so in the place of his education, and in the foreign schools. He was known to favor the use of the professorial cap and gown.

As a candidate for business before the public, he stood coldly upon his demeanor as a gentlemen and his real merits as a practitioner. He had no arts about him to win popularity. He rather repelled than attracted people. He was punctiliously careful in his intercourse with the patients of other physicians. In this relation he was, as Charles Lamb said of his father, "a man of losing honesty." Socially no man was more charming. Though dry and not much of a

talker generally, on festive occasions his conversation was brilliant and his wit sparkling. At a dinner or evening party, among cultivated people, he was delightful.

I must mention one more quality in Dr. Flint. To his sick brethren he was constant in his attentions, aiding them by his wise counsel and cheering them by his hopeful words. Dr. Flint retired from the institute at the close of his third course of lectures, but was reinstated in the same chair after the lapse of a few years.

Dr. Daniel Drake, though claiming Cincinnati as his home, was really a Kentucky physician, having passed the most active years of his life in our state, and achieved his great fame as a teacher and writer while connected with our schools. It is unnecessary to detail his brilliant medical history. It is known to every one. I wish to mention the single honorable fact that he was the *first* physician of the West ever called to fill an important chair in an eastern medical school. In 1830 he was appointed professor of theory and practice of medicine in the Jefferson Medical College, of Philadelphia. Dr. S. D. Gross was appointed to the chair of surgery in the same school at a later day, and, as far as I now remember, was the second western man thus distinguished.

As the intimate personal friend and fellow-student of Dr. James M. Bush, I had the opportunity to learn at an early day, the genius as an artist, the quick perceptive faculties and the logical qualities of mind which form the basis of his high professional reputation. He was a student first in the office of Dr. Alban Goldsmith, and then in that of Dr. B. W. Dudley. He won the high regard of both of these eminent men. As soon as he graduated in medicine he became prosector for Dr. Dudley, and then his associate in the practice of surgery. When Dr. Dudley retired from teaching, Dr. Bush was appointed to the vacant chair, and discharged its duties with eminent ability. When Dr. Dudley retired from the field of his brilliant achievements as a surgeon, Dr. Bush had the rare courage to take possession of it. No higher

tribute can be paid to him than to say that he has since held possession without a successful rival.

In the sciences collateral to medicine Kentucky has played a distinguished part. In the interesting departments of botany, geology, and chemistry, Dr. Charles Wilkins Short and Dr. Robert Peter are known throughout the scientific world. As teachers, the modest, almost shrinking manner, the seemingly acerb dignity, and the Addisonian style of the one, and the lucid expositions and brilliant illustrations of the other, must be remembered by all who ever listened to them.

I can not close these hasty and imperfect reminiscences, so unworthy of their subjects, without the mention of one with whom I had the honor to be upon terms of personal and professional intimacy for more than thirty years. I refer to Dr. Llewellyn Powell. Dr. Powell held the chair of obstetrics, first in the Kentucky School of Medicine, for some years, and afterward in the University of Louisville. In both he was recognized as an able, eloquent, and instructive teacher. He gave unqualified satisfaction to colleagues and pupils.

There are two classes of medical teachers: the one professional, trained in the arts of elocution and happy illustration, studiously skilled in the many ways of putting things; not subordinating matter to manner wholly, but relying largely upon felicitous modes of presenting their subjects. The other class includes physicians of mature study and observation, who have accumulated a large stock of practical knowledge from which to draw the matter of their teaching. Out of the fullness of their knowledge they are teachers. The graces of rhetoric and the tricks of elocution are not conspicuous elements of their style. Dr. Powell happily blended the best qualities of both of these classes. By nature he was wonderfully endowed with the gift of language. Words the most appropriate were uttered promptly and gracefully at the bidding of every thought. Though he was not trained to the special work of teaching, he seemed to possess the happy

facility of the professional teacher. With such a manner he was prepared to impress upon his pupils with singular effect the practical knowledge derived from many years of clinical observation.

Dr. Robert J. Breckinridge was reared and educated in Louisville. Of a distinguished family and singularly pleasing address, graceful and easy as a speaker, as a writer forcible, pointed, and scholarly, he would but for his untimely death have plucked the highest honors in the profession.

Dr. Carey H. Fry, an original member of this Society, died, on the 5th of March, in the city of San Francisco. He was present and took an active part in our memorable meeting of 1852. He was with us again, in Louisville, in 1872, with undiminished interest in our proceedings. Truth warrants and personal affection impels me to say that he was the peer of the highest in all noble qualities of character. He was a refined gentleman, an accomplished physician, and a gallant soldier.

Whatever of renown the University of Louisville may have acquired, a portion of it is due to two distinguished members of another profession, the Hon. John Rowan and the Hon. James Guthrie. Judge Rowan was the first president of the board of trustrees, and gave the influence of his national name to the foundation and early fortunes of the school. Mr. Guthrie became the president upon the death of Judge Rowan, and continued so until the close of his long and useful life. No institution ever had a more devoted friend. His fealty to it never faltered. Amid the cares of state and a large professional business, he always found time to work for the interests of the University. Whatever seemed likely to promote these interests met with his warm approval; whatever opposed them was sure to meet his stern and inflexible hostility. His name is indissolubly linked with an interesting part of the history of Kentucky medicine.

The medical journalism of Kentucky has always been of a high order. Though commenced at a later date than that

of her sister state of Ohio, Kentucky was in advance of all other states of the valley. The Transylvania Journal of Medicine and the Associate Sciences was the first journal published in Kentucky. It dates from 1828, and continued to be the leading journal until its close, in 1838. Its successive editors were Professors John Esten Cooke, Charles Wilkins Short, Lunsford P. Yandell, and Robert Peter. The next was the Louisville Journal of Medicine, in 1838, edited by Professors Henry Miller, L. P. Yandell, and Dr. T. S. Bell. This had a brief existence. Then came the Western Journal of Medicine and Surgery, edited at first by Profs. Drake and Yandell, and then by Professor Yandell and Dr. T. S. Bell. It lived from 1840 to 1855. The Western and Southern Medical Recorder was published by Dr. James Conquest Cross, in Lexington, in 1841–2. The Kentucky Medical Recorder, a continuation of the Transylvania Journal, was edited by Profs. Henry M. Bullitt and Robert J. Breckinridge, in 1851–2, in Louisville. Dr. L. J. Frazee edited a semi-monthly journal, called the Louisville Medical Gazette, in 1859. Drs. Bemiss and Benson published the Louisville Medical News in 1859–60. The Louisville Review, edited by Gross and Richardson, in 1856, and the Louisville Medical Journal, by Dr. Colescott, in 1860, were short-lived. The Sanitary Report was published, semi-monthly, by the United States Sanitary Commission, in Louisville, in 1863–4.

A distinguished editor of the first journal of Kentucky still survives, in the full vigor of his intellectual powers, and is yet a large contributor of his mature learning and experience to the journalistic literature of the state. A brilliant and instructive teacher, first in Transylvania and then in the University of Louisville, no member of the profession in the West has written more gracefully and powerfully than Dr. Lunsford P. Yandell. No Kentucky author has written more or upon a greater variety of important topics. His scientific reviews, elaborate monographs upon various subjects of medicine, papers upon geology and other branches

of natural history, his introductory and valedictory addresses, and contributions to general and popular literature exceed one hundred in number. Besides these, I can not omit to mention a most valuable unpublished report made to this Society, in 1853, upon the Medical Literature of Kentucky. It is a work of exhaustive research, and an accurate index to the papers of all the writers of Kentucky. It should be continued to the present time, and published by this Society.

The two journals which now represent this branch of medicine in Kentucky, the American Practitioner and the Richmond and Louisville Medical Journal, rank among the ablest of this country.

In a community which has founded and fostered so many great medical institutions, true science would necessarily always command respect and confidence. In no part of this country have the many forms of quackery met with so little encouragement. Every where, of course, will be found ignorance, credulity, and the other weak elements upon which medical fungi grow; but Kentucky may be justly proud of her remarkable exemption from them.

Time and your exhausted patience admonish me that I must bring this historical *olla podrida* to a close. I trust that what I have said may serve to add something to the good name of our beloved state, and stimulate us to contribute yet more to the renown which our illustrious fathers have achieved for it.

I wish to say a few words as to the work of our present meeting. We have come, many of us, a long distance to do this work. Let us do it thoroughly and well. Let our sessions be devoted to scientific business, undisturbed, as far as possible, by matters which can not advance the interests of our beneficent calling, and may mar the usefulness and happiness of our annual reunion. I have a hope that this meeting may be signalized by the dignity of its conduct and the number and value of its contributions to medical science.

MEDICAL EDUCATION.

BY EDWARD RICHARDSON, M. D.

The subject of Medical Education, upon which I beg to offer a few reflections, is one which, however trite, can never lose its interest or its importance.

Before an intelligent society such as this nothing, I presume, could be more unnecessary than to descant at length upon the benefits of education.

It is education which makes the difference between the civilized man and the savage, and which every where, in proportion to its own completeness, elevates man to a higher rank in every thing which constitutes national or individual excellence or power. It is indeed but another name for civilization itself, and any one can see by a glance at a map of the world that just as the benefits of education are enjoyed by any people they are to the same extent exalted in consideration and influence among the nations. That knowledge is power, that education is the very basis of all true elevation, are indeed mere truisms which no discriminating mind can for a moment question. Even the most supercilious, pretentious, and exclusive of the nations has been compelled by experience to admit them, and the Chinaman who has received an American education is at once upon his return exalted to the dignity of mandarin, or sent back with selected youths to receive a similar enlightenment.

So thoroughly has the public mind among the most cultivated nations become alive to the importance of education in its largest sense that the tendency every where is toward the

creation of greater facilities for improvement, a more extended course of studies, and a more rigid enforcement of laws against ignorance and its resulting crimes.

The defective common-school instruction of former days has given place to superior systems and to higher branches of study, which are as much in contrast with the former as is the elegant brick and frame seminary building of modern days with the rough, unhewn log school-house of the past. Intermediate and high-schools have been added, colleges and universities have been multiplied, and the question of the day now is, how a complete college education may be placed within the reach of every youth, whether male or female, in our country.

It is the highest intelligence which fully justifies this earnest zeal on behalf of universal education; for experience has fully shown that comparatively the benefit of an educational training consists less in the mere information communicated than in the improvement and development of the mind itself.

The studies of the preparatory school as well as those of the college are hence so selected and arranged as to bring into continued and healthful action the different faculties of the mind, in order that these may be properly disciplined and fully evolved in all their appropriate vigor. The problems and theorems of Euclid and the rules and processes of logic teach precision and force in reasoning. Algebra and its kindred branches cultivate the analytical powers. The natural sciences improve the faculties of observation, give new insight into the mysteries of the universe, impart accuracy to the judgment, and an enlarged comprehension of the world around us, and its relations to the arts and wants of civilized society. It is reserved especially for the ancient languages, and what is usually called æsthetics, comprehending the *belles-lettres*, the philosophy of grammar, the principles of criticism, of poetry and the fine arts, to cultivate the taste; to refine the perceptions both as to words and the things

they represent; to soften rudeness by the graces of composition; to supply words, the very wheels upon which the mind revolves and operates its mechanism; to furnish a just comprehension of our own language by revealing its etymological basis; to make plain the terms of science; and, though last, not least, to serve as a means of communication and bond of union with the learned of other countries. No other study brings into play precisely the same class of faculties as are employed in choosing appropriate renderings on translation, and in transferring to our vernacular those delicate shades of meaning and forms of expression which are often to be perceived and appreciated only as we may penetrate into the very spirit and genius of an author.

These studies of the ancient languages indeed, connected with poetry and with rhetoric (which particularly consider the moral feelings and the arts of persuasion), have not without reason been termed the *humanities*, from their well-known tendency to refine and elevate mankind.

All the studies of the college course, in short, have been thought indispensable to an equable and proper development of the mind, and the chief regret has ever been that so few students take the usual four years' course in college—a course with us in America so limited in extent as to form the very *minimum* amount of education really necessary to every one who would properly perform his part in human life. A great change has taken place indeed in regard to what constitutes an education since the time when in England a felon who could simply read and write might plead "benefit of clergy" in arrest of judgment. A mighty revolution has occurred even in later times since the current opinion prevailed that a collegiate education was necessary only for those who intended to devote themselves to law, to theology, or to medicine, hence known as the "*learned* professions." Many persons, prepared by college culture and pursuing literature or science in its various departments, have ennobled themselves and enriched the world by their labors,

becoming the guiding lights of society and models in all the higher walks of literary distinction. A constantly increasing number indeed of individuals in the common walks of life have availed themselves of the benefits of a collegiate education, and have returned to the merchant's desk, to the vocation of agriculture, or to the bench of the artisan, happy in the consciousness of an enlarged vision of men and things, a keener appreciation of "the good, the beautiful, and the true," and a superior ability to employ their faculties aright in any position which may be assigned them. A collegiate training, even in our own country, has become a very common thing, and we constantly meet every where in society women and men of culture whose literary knowledge and tastes, refinement of manners and of feeling, render them ornaments of society.

Such is a very hasty and general view of existing facts in reference to the general subject of education — a power which, far from accommodating itself to human indolence or inability, has been constantly extending its domains, and making new demands in proportion to the increased facilities it has supplied. It now requires of the student an enlarged vision, but it lifts him to a greater elevation, so that his eye can readily take in a greater field and perceive more clearly the relation of objects with each other.

It is a mistake hence to suppose that the extension of science or the addition of new studies to a course of instruction necessarily augments the labors of the student. There is in reality but one science—that of the universe—and the relations which exist between different branches of human knowledge reveal evermore the most striking analogies. These brighten with their rays the loftiest summits of new discovery, which in turn reflect back again its own brilliancy, and illuminates the entire circle of the sciences with a new and resplendent luster.

It is with such a state of facts before me that I have recently read with much astonishment an "Address" by a

member of the faculty of medicine, which I can regard in no other light, as to its spirit and tendency, than as *a studied apology for a lack of education and a specious plea for ignorance on the part of members of the profession.* This "Address," delivered before the "American Medical Association" by its President, has been placed before the profession; and the sentiments it inculcates bear with them a certain influence, from the position and reputation of its author. It belongs accordingly to every member of the profession to examine these doctrines thus made public property; and this I shall now briefly endeavor to do upon their own merits, and in reference to the general question, quite independently of all official or personal considerations.

The "Address," I may remark, contains in its earlier portion various interesting reflections and reminiscences of eminent medical men in this country. These, however, do not constitute its main subject, which is distinctly announced to be "*Medical Education;*" in the discussion of which the author is pleased to controvert the prevailing conviction that the profession is suffering from the defective education of its members.

I have characterized this portion of the "Address" as *a studied apology for a lack of education and a specious plea for ignorance on the part of the members of the profession.* Let me do the author, however, the justice to say that he does not directly advocate either incapacity or ignorance. On the contrary, he extols a superior professional education, and, distinguishing between this and what may be termed collegiate or scholastic learning, endeavors to exalt the former at the expense of the latter.

Admitting the depth of German erudition, he ridicules their course of study as too extended, and denounces the German practice of medicine as inefficient, as if such were a natural consequence of profound investigation in relation to medical subjects. At the same time he singles out a few cases in our own country where native talent or address

achieved success in spite of the defects of early education, and adduces also the case of a practitioner in a "shanty" far in the western wilds, where "in his lonely rides he saw more antelopes than fellow-men, and heard oftener the shrill yelp of the coyote than the voice of a friend," yet who was found administering bromide of potassium and hydrate of chloral to his patients. Had indeed this hero of the shanty in his isolation *invented* this style of practice, the case might have been in point. As it is, however, the illustration is an unfortunate one for the argument, since the medical journal from which the doctor derived his knowledge of these remedies was but, as it were, a gleam of light proceeding from a more enlightened region of the earth, and the very remedies whose mere administration seemed to confer so much honor were themselves discovered and presented to the profession through the investigations of those very Europeans whose erudition is elsewhere derided, and whose labors are declared to have amounted to nothing, their practice of medicine being denounced as merely a "solemn meditation on death."

Nor is the contrast which is instituted between Dr. Daniel Drake and certain unlearned professors of Transylvania University less unlucky. Dr. Drake during his life made his eminent talents every where respected and felt in enterprises for the elevation and improvement of the West. An active member of the College of Teachers, and prompt and efficient in every important public movement in behalf of education, if it be true that his laborious collection of statistics and investigations into the diseases and climatology of the West lies now, like many other valuable works, neglected upon the shelf except as a book of reference, the author of this Address fails to inform us what important observations or discoveries have been given to the world by the ungrammatical professors whom he applauds, or what valuable and popular medical works *in bad spelling* they have left behind them for the edification of posterity. From the very light and airy style indeed in which the author speaks of bad spelling, and

the illustrious examples he adduces in its behalf, I almost expected to find in the next paragraph the practice seriously recommended, if not for "the humor of it," at least as a sort of foil for native genius and "rugged utility," and that Josh Billings, Petroleum V. Nasby, or Mrs. Partington would be held up as models of composition for all future aspiring medical authors.

But our author, in the cases he cites in proof of his doctrines, is unfortunate in choosing mere exceptions. These he virtually substitutes for the general rule itself, and would make the exceptions prove the rule to be false rather than true. Nor, while adducing the examples of a few who without the benefits of literary culture have distinguished themselves in medicine, does it seem to have occurred to him that if they had enjoyed the advantages of education they would have distinguished themselves much more.

It is related of Milton, who in his youth is said to have been extremely handsome, that as he was one day reclining with a book in his hand beneath the shade of a tree in the university grounds he gradually sunk into slumber. At this moment a party of foreigners who were walking through the grounds drew near, and paused to admire the sleeper. A young lady of the company, after gazing on him for a time in delighted wonder, hastily wrote a few lines upon a bit of paper, and slipping it into his hand passed on with her companions. One of Milton's comrades, who had witnessed the scene from a distance, coming up, apprised him of what had occurred, extolling in the highest terms the personal beauty of the unknown foreigner. Milton with trembling fingers opened the billet, and found it to contain a few lines from an Italian poet, beginning: "*Ocche stilli mortalli, etc. Ye eyes! Ye human stars! Ye authors of my heart-felt pangs! If such be your influence when closed, how great would be your power if ye were open!*" It is said that Milton was in despair at being unable to trace his unknown visitant, and that journeying in vain, even into Italy, for the purpose, his

failure finally suggested to him the title of his immortal poem, "Paradise Lost." It does not seem to have occurred to the author of the "Address" to which I have referred that the exceptional cases on which he seems to rely, however worthy they may be of commendation, would have been far more brilliant, eminent, and successful had the eyes of these men been opened to the light of a thorough education, and that for want of this many a mute inglorious Milton in every department of human life may have had occasion to mourn through sorrowful years a "paradise lost."

It is most true that the skill of a Dudley or the address and popularity of a Richardson are worthy of note, like gleams of brilliancy from diamonds in the rough. How different it might have been, however, our author does not tell us, if such diamonds had been enabled to reveal their polished facets through the skill of the lapidary. It is not the "rugged utility" of the block of marble that gives to it its value, but the skill and labor which chisels that ruggedness into the fair proportions of the Greek Slave or of the Venus de Medicis.

The great and pervading fallacy of the "Address" under consideration is that, distinguishing between what is strictly medical instruction and what is properly scholastic training, it takes it for granted that a real medical education is possible without this training and apart from any other species of learning. It seeks to exalt mere professional information, especially that which is clinical and practical, and to depreciate and disparage in comparison a preparatory collegiate education as something quite unnecessary, if not pernicious. It is here that I would take direct issue with the author, and fearlessly affirm that a real practical medical education is, as a general rule, impossible without that preparatory scholastic training which literary institutions alone supply.

What is it that we understand by education? Derived from *e* and the obsolete verb *duco*, *ducare*, it does not mean a drawing out or leading forth, as if it were from *e* and *duco*,

ducere; but it implies fostering, training, nurture. Physically it is not the business of the midwife, but of the nurse who nourishes the child, and teaches it to walk and talk and exercise aright its faculties, as is well discriminated by Cicero when he says, *Educit obstetrix, educat nutrix, instituit pedagogus.*

I have already designated the great end of a complete education to be the harmonious exercise, control, and invigoration of the powers of the mental and bodily organization, and have stated this to be the chief benefit of educational institutions, whose courses of study are specially adapted to this very purpose.

But all this, it would seem, according to the drift of this "Address," may be dispensed with, and the embryonic doctor, coming forth, as intimated, from the labors of the cornfield, may expect to find in a medical school, with its clinics and its hospitals, all that is really needed to confer upon him a complete medical education! If education is properly the development and invigoration of the human faculties, what is there, I would ask, in the usual course of study in a medical school to accomplish this great end? It is perfectly well known that almost all that a medical institution proposes to impart is simply a knowledge of *terms*, of *facts*, and of *processes* or actions, vital and morbid. It supplies, for the most part, a mere technology, which may be crowded into the memory without informing the judgment—a series of medical and surgical opinions and decisions delivered by lectures *ex cathedra*, to which the student is expected to yield an unquestioning assent, and in regard to which he is not allowed to indulge the slightest independence of thought, under the hazard of failure in his examination for a medical degree. In all this I affirm there is nothing which may properly be called culture or education, none of the medical course being of such a nature as to develop and invigorate by appropriate exercise the mental powers themselves. But more than this, it is quite too late for a proper educational training when a

young man enters a medical school. The formative period of life is past; his habits of thought are formed; his character is fixed. He comes to the study of medicine with faculties untrained, with emptiness of head and too often corruption of heart, with vague and loose conceptions of every thing, without proper powers of discrimination or the ability to concentrate his thoughts or to give them correct and forcible expression — incapable, in short, of exercising any control over the confused and mingled mass of facts and opinions he is daily compelled to swallow, but is quite unable to digest.

How different is the method employed in imparting a true education! In Germany, for example, children have no sooner finished their elementary lessons than they are transferred to the *Gymnasium* or to the *Real Schule*, where, from the age of ten to eighteen, there is laid the true foundation of scholarship. Here, with compulsory attendance, in daily personal contact and intercourse with superior teachers, in examinations, instructions, and all appropriate exercises, they are encouraged to inquire for themselves, and to develop the faculties of mind and body. It is here that the spur of emulation, the collision of mind with mind, the judicious administration of rewards and punishments, the guiding power of trained and accomplished tutors, accomplishes in the formative period of life that nurture and discipline of the faculties which alone is education; and youths thus prepared and instructed in a course of study as far advanced as that of the sophomore year in American colleges are then transferred to the university, where with less restraint and still higher opportunities they are fitted to enter upon those special studies which belong to the profession they may have chosen.

It is just here, let me remark, that our American plans of education have heretofore been so sadly deficient—viz., in the want of a proper training-school, intermediate between the common-school and the college. This want is indeed

beginning to be supplied by high-schools and second-rate colleges; but there is need of a more rigid discipline, a greater degree of personal intercourse between teachers and pupils, and a better adaptation of the entire system to the peculiar requirements of American youth. Any attempt then to disparage scholastic training or to substitute for it the lecture-course of a medical school is nothing less than an effort to justify a want of education and a specious plea for ignorance.

I can very readily fancy our author's corn-field graduate placed unexpectedly in a refined and cultivated society, and introduced into a company of intelligent ladies and gentlemen who are agreeably and interestingly discussing the principles of taste, the finer rules of art, the discoveries of science, or the nice problems of moral, social, or political philosophy. Our graduate may listen and smile, and make some common-place remarks, but can neither comprehend nor enter intelligently into the conversation. Precluded from introducing a professional theme, not being able to "physic the subject," as Camillo says in Shakespeare's Winter's Tale," and forbidden by the common rules of courtesy from *inoculating* the discussion with any sort of *virus* which he may have in his possession, he is speedily reduced to an ignominious silence; and however redolent he may be of hospitals and of clinics, and confident in his medical skill, it will not be long until with the discerning he will attain to the earnest wish of Dogberry, "Master, do not forget to specify, when time and place shall serve, that I am an ass."

But it is impossible that he can have received a good medical education, since this necessarily presupposes trained and cultivated faculties, an ability to detect fallacious reasoning, a perception of nice distinctions, and a delicate appreciation of those subtile indications which often determine the course of the truly intelligent physician, and make all the difference between success and failure. It matters not whether, under the auspices of the old heroic school,

our hero may have been taught that, to use the words of Fessenden,

> "Each wry-faced rogue and dirty trollop
> Must be well dosed with drastic jalap;
> And though their insides you should call up,
> Still make the numskulls take it all up;
> Cram all the ninny-hammer's gullets
> With pills as big as pistol bullets;
> Then, Frenchman-like, give each a clyster,
> And next go on to bleed and blister;"

or that, under the improved modern systems, he may have learned that he can more easily attain distinction by prescribing the bromide of potassium and the hydrate of chloral. This makes no difference at all in estimating his character, but is a mere accident of the times. His mind, for want of proper cultivation, is unable to penetrate into the arcana of diseased or defective action, and he prescribes by rote, for a disease of which he really knows nothing but the name, a set of remedies of whose action he is just as ignorant. His medical education so-called has been nothing but a stuffing of the memory; his judgment is untrained; his perceptions are confused; and in no proper sense is he an educated physician.

It is indeed a very different character that is needed to minister to human afflictions and sufferings. The practitioner of the divine art occupies a very peculiar position amidst the positive quantities of social life, of which he is one of the most important factors. The dearest earthly hopes and interests are committed to his charge. Secrets the most delicate and profound are intrusted to his honor. Moral questions the most difficult are submitted to his judgment. In courts of law he is often the arbiter of testamentary capacity, or the determining witness in issues of life and death. His profession necessarily brings him into intimate communication with all the different ranks of society, and he becomes, as it were, an Asmodeus before whom the privacy of human affairs is unvailed, and who finds repu-

tation, fortune, friendship, the hopes of youth, the anxieties of age, the responsibilities of wealth, or the destitutions of poverty alike presented to his view, and in a greater or less degree subjected to his control. The lawyer may confine himself to his authorities and to his pleadings at the bar; the clergyman may fulfill his duties in attending upon the ministrations of his pulpit and the spiritual interests of his flock; but the physician occupies a wider field, while he shares more or less with both the high responsibilities which spring from man's complex nature; for he is called to prescribe, not for the body only, but for the mind, whose diseases and morbid conditions he must comprehend in order to relieve them. Nor are the singular obliquities of the moral sense to be uninvestigated or uncared for in a profession which is necessarily compelled to embrace human nature in all its departments, and to which nothing that appertains to man can be foreign or unimportant.

Allow me then, in conclusion, to express the hope that every attempt to undervalue the importance of a liberal education, a thorough preparation, as a preliminary to professional studies, will be exposed and discountenanced by all who have at heart the honor, the dignity, and the true interests of the profession. Most heartily do I respond to the sentiment expressed in the address of our late president (Dr. Wise) at Louisville, that "if we elevate, protect, and sustain the noble, learned, and true in our ranks, while we are swift to denounce the tricksters and charlatans who disgrace our profession, we will and can surely counteract much if not all of the defects in our American system of medical education." I trust the time is at hand when a higher standard of scholarship shall every where be required; when the medical profession in America shall be no longer degraded by an incompetent, unscholarly, and unworthy membership; and when ignorance shall no longer find an apologist or an advocate among those who enjoy its honors.

HISTORY IN DISEASE.

BY J. J. SPEED, M. D.

"April 1, 1859," is the date of a medical journal in which I published an article containing this sentence: "The great need of the American people is a race of doctors who have the courage to tell them plainly, *take less physic.* For generations the habit from babyhood up to the lean and slippered pantaloon has been to medicate for every conceivable ailment. The demand is not simply for the doctor, but for physic also; and so persistent, so overbearing, and so authoritative is their folly, that upon the least hesitancy in the medical attendant to issue his warrant the prompt conclusion is that he *don't understand his business.*" The conviction of that day is deepened and confirmed by the added experience of fourteen years.

The first waves of the new philosophy which was then sweeping from the east to the west left an impress upon the medical mind, and held in check, to some extent, the disastrous reign of polypharmacy. Revolutions never go backward. The clarion note of a leader here and there tells us that the new army is encroaching upon the old dominion, and it needs no prophet now to predict the overthrow of the ancient *régime.*

And what is the principle which underlies the new philosphy? Simply this, that disease itself has a life history which medicine does not largely modify. It is the study of this history toward which the medical mind must drift before we are masters of our art.

The venerable Forbes, a pioneer in this line of thought, and full of practical common-sense, tells us that "ignorance of the natural course and progress of diseases which are essentially slow and not to be altered by any artificial means often leads the friends of the patient to be urgent with the medical attendant to employ more powerful measures, or to change the means used, or to give more frequent doses. The same ignorance not seldom occasions dissatisfaction and loss of confidence in those practitioners who, from conscientious motives and on just grounds of art, refrain from having recourse to measures of undue activity and from prescribing medicines unnecessarily, and leads to the continuance and employment of men who have obtained the reputation of greater activity and boldness through their ignorance of the true character and requirements of their art." This is a pregnant sentence, and shows how thoroughly he was imbued with the consciousness of the folly of much medication and the value of a closer study of history in disease.

And then one of the most distinguished of New England teachers, Dr. Bigelow, with a wider vision than that of the generation in which he lived, and with a sturdiness of emphasis which has an *ex-cathedra* sound, guards us against announcing to our "patients that we will cure incurable diseases, or cut short those which have a necessary duration; for if we *do*, we do not *speak the truth*. We merely blind the patient, while we throw the die for a fortuitous result—a game at which the veriest mountebank may beat us; for, says he, charlatanism consists not so much in ignorance as in dishonesty and deception." Let us avoid this deception and escape this charge of dishonesty by holding in reserve a little the look of wisdom and the assertion of knowledge which all experience teaches us is a sham and an imposture. Having so much to boast of in the noblest of all vocations save one, we can certainly refuse an arrogant and presumptuous claim to that which is not ours.

Unquestionably among the masters of medical philosophy

in Great Britian stands prominently forward Prof. J. Hughes Bennett; prominent by reason of his varied experience and comprehensiveness of view; a man who is minute as well as enlarged in his teaching of the great art. "It is daily becoming apparent," he tells us, "to those who observe in a spirit of sincerity and truth, that much of the practice of our profession which has resulted from what is called experience is altogether incompatible with the existing state of our knowledge; that in consequence it requires a thorough revision; that the systems and nosologies of our forefathers, though useful in their day, no longer apply; and that a new field of labor is now open to the cultivation of those zealous clinical students who are anxious to identify themselves with the progress of medicine; for it can not fail to strike all those who have paid any attention to modern medical teaching that while physiology and pathology have made rapid advances, our impressions of the actions of drugs and modes of treatment have become altogether changed. But once establish on indisputable data what is really fact—what is the true law governing the progress of disease—in how many instances then does it become evident that the means employed for its removal are feeble or altogether inert!" So much for Prof. J. Hughes Bennett.

Now hear a word from Prof. Bartlett—a word from his Philosophy of Medical Science: "The great laws of pathology, of etiology, and therapeutics are sure to be ascertained. Each successive year will add something to their development by the steady accumulation of legitimate and authentic materials, so that in the end the entire natural history of disease will be made out and written."

There is a vast deal of sound philosophy in this work of Prof. Bartlett's. His strong, comprehensive mind was thoroughly imbued with a love of science, and the spirit of his teaching will ultimately penetrate and light up many of the dark places which yet disfigure American medicine. He is one of the schoolmasters who are abroad in the land—

a torch-bearer whose fierce flame consumes the stubble and clears away the mist which so obstructs the march of medicine to its best practical end.

Extracts might be multiplied to weariness, all having the same end, and with greater or less fatality striking at the insane habit of polypharmacy, and calling off the medical mind from its wild chase after unattainable panaceas.

In as wide a field of thought as that presented by the science and art of medicine it is not remarkable that the human mind, multitudinous in its diversity, should take very divergent routes in search of the same end—that end the relief of human suffering. It was so in the beginning; it will be so to the end.

Underlying all systems as a vitalizing force, giving shape and character and designation, is found one or the other of these two ideas: drugs as remedial agents, or the *vis medicatrix naturæ*. Out of the first has grown the legion of panaceas, and the unwieldy accumulation of roots and leaves and barks which make up the fifteen hundred pages of our pharmacopœia; an accumulation of assumed and real properties for a tolerable acquaintance with which would require assiduous devotion through the added lives of Adam and Methuselah, and a population which would crowd to inconvenient density an entire continent. And yet we hear day by day men talk glibly of the certainty with which diseases vanish under the influence of their blades of grass, their elixirs, their cundurangoes. Men who travel upon that line are the men who talk about "cures;" who imagine that some specific virtue resides in their little slips of paper, upon which is written in choice Latin some favorite root; and who look oracular when saying *take that;* and whether the patient take *that* or its representative, he is probably better next morning, and thus gives added proof of the value of the doctor's root and the doctor's skill. Disease is not an entity which is to be antagonized by a particular drug; not a specific poison, to be antidoted by a specific

medicine; and yet every conceivable drug has been claimed as a remedy for every conceivable malady. For a thousand years of history has small-pox pursued its unerring way, living its life, fulfilling its history, all uninfluenced of the *cures* which have been addressed to it. How many of the long list of maladies have as definite a history as small-pox we may not undertake to determine. The impotence of drugs and the fallacy of cures in a very large proportion of cases must have impressed every practitioner who stops long enough to look even casually into the workings of the wonderful and fearful mechanism with which he deals.

The train of thought which puts you in search of antidotal medicines diverts you thoroughly from the observance of disease in its essential and uniform history. While looking for the remedy we overlook the law which underlies and limits the life of the disease. Law is stamped upon every thing in life, and marks every period of life. In human existence each period has its history. Beginning at the germ, you find a law regulating the period and limiting the history of utero gestation; the period of childhood limited by physical law to the development of puberty; the period of reproduction arrested in the female by the period of the grand climacteric; the period of entire life rounded by the Psalmist's three-score years and ten. You find law regulating all the functions of life—hunger, digestion, assimilation, depuration, growth, maturity, decay. Is it irrational to hold that law also regulates and limits abnormal function? We see that it does in the many diseases that we call *self-limited.* May not closer investigation open up to us a longer list of diseases which have a life to them—a history rounded by definite period?

The ordinary forces of nature give us wind and rain, heat and cold—all healthful in their normal courses. When in the shape of storms they are still in obedience to law, but we do not arrest the storm; we do not hope to blot out the tropic sun, nor soften the icy cold of the arctics, nor chain

the lightning in any other sense than by giving it direction. The storm must sweep by in obedience to its own laws. So the forces within us—the nervous, the vascular, the digestive, the assimilative—all healthful; but their perturbed state—can you arrest that? May we not rather direct and only keep within recognized bounds? Is it not a monstrous anomaly in nature that all other conditions of being, internal and external, are regulated by law, and disease only should be lawless? The conception, to my mind, contravenes the whole philosophy of the world, and leaves a break in the order of nature—a perpetual miracle. I do not accept the miracle; I do accept the law. You can not get out from under law, physical as well as moral. It underlies and overrides all your being, and enwraps you like an atmosphere.

If these things are so, what must be the necessary drift of medical thought? Evidently toward the discovery of the laws which govern morbid action, and a recognition of the history of separate diseases.

The difficulties in the way of a general acceptance of this philosophy are twofold. The one is ignorance on the part of the people as to the true mission of the doctor. There is no vocation in life touching which the popular mind seems wrapped in such Egyptian darkness. Since the ages when superstition and priestcraft and the practice of occult sciences dominated the world, the idea that disease was a visitation from the evil spirits, and the doctor with his decoctions was the appointed exorcist of limitless power, the theory of entity and antidote has reigned supreme. And though we stand to-day in the bright sunshine of the nineteenth century, the shadow of an age rife with charms and incantations is still resting upon the people. The Lives of the Chief Justices of England will tell you that the boyhood of Chief Justice Holt found him in his rollicking hours with boon companions, out of money, at an English country inn. His wit was quick; necessity was pressing. Hearing that the landlord's daughter was ill, he asked to see her, and with great gravity and a

look of wisdom equal to his new vocation he proceeded to write cabalistic words and unintelligible signs upon a slip of paper, which he ordered to be bound upon the arm of his lady patient. This paid his reckoning, and he left. The patient recovered. At the end of forty years, while he occupied the highest judicial seat in England, a haggard creature was brought before him for trial on the charge of witchcraft. She had practiced her art successfully, she said, by means of a folded slip of paper bound to the arm of the patient. The chief justice asked for the paper and recognized his own jargon of forty years before. The masses, I say, even the educated masses, are not square out from under the shadow of centuries which are past. How largely now is this false view of medicine due to the charlatanry of the profession? Ignorance and avarice in the profession are afraid to let light in on the people; and even among our more educated members there is an unworthy pandering to this ancient delusion.

The man who regards his profession as a trade out of which he is to make so much money year by year will be very far from letting his patient know that he stands to-day in the presence of a great doubt. Such a doctor doubts nothing, or *seems not to doubt.* With him all is certain and clear, and he acts out his lie with all the assurance of a practiced impostor. In the presence of his conscience he says, "I don't know." In the presence of his patient he says, "This is certainly so." We educate the people to believe that we know what we know we do not know. A very high authority taught long ago that we can not serve two masters, and in the interests of a profession which claims to be learned and beneficent I tell you we can not serve truth and falsehood.

I do not overrate the extent of this false teaching on the part of doctors, nor do I underestimate the real dignity and manhood of my profession. I present the subject as I have seen it these long years. Take any medical circle, whether social or organized, and listen to the modest statement we

make in the hearing of our fellows—the uncertainty, the doubt, the frank utterance of that hard phrase, *I do n't know*—and go from that circle to the bedside of some poor humanity under the torture of rheumatism. How knowingly and arrogantly and imposingly we bear ourselves. We were doves and lambs a little while ago; now we are eagles and lions—the flashing eye, the stout heart, and the loud roar of the very king of forests and of air.

Medicine can never be what it ought so long as we pretend to what is not ours. We have by our own deportment toward the people brought ourselves to the point where we are afraid to tell the truth. Day by day experience teaches us that if we deal frankly with the patient, and tell him that we do n't know, he will promptly send for some one who says he does know. It is no reply to this state of things, nor any sort of justification, to fall back upon the general proposition that we ought to inspire our patients with confidence. No one recognizes more clearly than I do the therapeutic value of faith; but I am not willing to stimulate my patient's faith by habitual falsehood. Do n't be startled by the word falsehood. I mean exactly what I say. Fair dealing is demanded by all high interests—the interest of the patient and of the profession—and this fair dealing demands a frank confession of our inability to say yes or no; not that vague sort of street confession that we do not *know every thing;* but an honest statement at the bedside, in the ear of the sick man and in the hearing of his friends, that we do not know. Any other course makes an uneducated public sentiment morbid with vague superstitions, false conceptions of the almightiness of an art which is very powerless in the presence of many ills, prompts them to look for what no mortal can accomplish, and subjects us to the proven impotence which we had not the courage to confess.

In thus entering my protest against the habit of meddlesome medication I do not want to be understood as advocating the expectant system of the French, nor the

nihilismus of the German, nor that most transcendent of all humbugs, the homeopathy of Hahnemann. The arrest of overmuch drugging and the increased attention to disease in its natural history are the ends at which I aim. Savage life, French expectancy, German nihilismus, and homeopathy are the fields in which we may look for disease to run its course, uninfluenced by medication. In opening up to us these fields we owe them some obligation, and for all of them except one we have some respect. For the monstrous imposition called homeopathy we have no respect. It is the only system of the world which by its specific pretension has subjected itself to absurdity, mathematically demonstrable.

So far as medicinal power is concerned, the very air we breathe is loaded to deadly repletion compared to the highest homeopathic dynamizations. The moonshine which falls upon the eye of a single lover has power enough to make the world go mad. A single rose from the gardens of the grand sultan would perfume the globe with its ottar.

The two elementary principles or ideas which lie at the bottom of this gossamer air-fabric are the "*similia similibus curantur*" and the infinitesimal doses. Not simply the fallacy but the absolute absurdity of each of these pretenses has been shown a thousand times. The mode of arriving at the notion of *similia similibus curantur* is readily appreciable by any one of common intelligence. The books make it clear to the dullest comprehension. They select some healthful organization, and, holding it as a standard, administer the millionth of a grain of sulphur, charcoal, or opium, and require the conscious effects of this dose for two weeks or thirty days to be written down, under the head of sulphur, charcoal, or opium, in a book provided for that purpose. In other words, all the impressions felt by the person loaded with this millionth of a grain of sulphur are to be noted under the proper heading, and this for ten or twenty or thirty days. Now sulphur having produced in the healthy subject this or

that set of symptoms, we familiarize ourselves with the fact that this is the physiological action of sulphur. Going then to the bedside, and finding this or that set of symptoms in the sick, the reasoning is easy. Sulphur having produced this state of things in the healthy subject—*similia similibus curantur*—sulphur will remove it in the sick. This is what Hahnemann calls "provings." It is the basis of the homeopathic therapeutics, and runs through their whole philosophy. Whatever effect a given medicine produces in the *healthy* subject, that effect observed in the *invalid* will be removed by the same medicine. *Similia similibus curantur*. Certainly.

Then the second elementary principle. In the healthy as as well as in the invalid subject this effect is produced by infinitesimal doses. Some of the disciples have affected to deny and repudiate this as an essential part of their system; but that is an unwarranted mutilation of homeopathy. It is the play of Hamlet with Hamlet left out. The thing is absurd, I know; but the infinitely little dose is a part of the infinitely little thing. There 's a sameness about the system which makes it one. There 's a fitness of things through and through. We must preserve the unities. The law of logic requires it, and I take my stand upon the law.

Now what is an infinitesimal dose, and how is it arrived at? After this wise: To a grain of sulphur add ninety-nine grains of sugar of milk, and triturate it in a mortar for so many minutes, and turn it over so often with the spatula, and triturate again for so many minutes, and so on through the hocus-pocus directions specifically laid down; and from this *first* trituration take out one grain (which contains the one hundredth part of a grain of sulphur) and add ninety-nine fresh grains of sugar of milk, and triturate and spatulate as before through the required routine. Take from this second trituration one grain, and you have the one ten-thousandth part of a grain of sulphur. Add now ninety-nine fresh grains of sugar of milk, going through the same processes of trituration and spatulation, and one grain of

this dynamization will give you the one millionth part of a grain of sulphur. Now ordinary mortals have already lost their reckoning. The average man finds himself at sea in attempting to grasp a conception of the millionth part of a grain of sulphur. But this is not the faintest approach to an infinitesimal dose. Go on with these triturations till you get up into the billions and trillions and decillions, and you arrive at *the words* by which Hahnemann attempts to convey an idea of the infinitesimal dose. Attempts, I say; for surely no sane man will claim that he has any real conception of the decillionth part of any thing. A twig from the cinchona-tree of South America dropped into the gulf stream would convert the Atlantic Ocean into a stronger solution of quinine than we get in the highest homeopathic dilutions. Whether it would be more valuable or less valuable is matter of uncertainty. By a very curious piece of psychological legerdemain Hahnemann utters as a formula this strange thing: that the greater the dilution the greater the strength. I never exactly understood that, nor has any medical or mathematical friend whom I have consulted. But that no doubt grows out of a want of potentialized dilution of brains.

That human credulity should be taxed by such transcendent folly is only matched in wonder by the fact that intelligence in all common affairs and respectability in personal life so promptly and so persistently pay the tax.

Now all this is very different from an honest trust in the medicinal forces of nature—very different from an avowed reliance upon the history of disease. It is just the difference between hollow pretension on the one hand and a brave steady trust in the *vis medicatrix* on the other. The preposterous claim that the millionth part of a grain of sulphur influences human organization for thirty, fifty, or a hundred days is simply a fraud upon sick humanity; and the pretense that this sick humanity is cured by some potentialized globule of sugar, impregnated to hazardous power by some medicinal substance unknown to all science outside of homeo-

pathic circles and undiscovered by chemical analysis and microscopic investigation, is an insult to the common intelligence of the world.

That patients in the hands of homeopathic practitioners recover from many forms of disease we do not deny; but we do deny that they recover by reason of homeopathic medication. We deny squarely and with emphasis that infinitesimal homeopathy has any therapeutic value whatever. Chemistry and microscopy confirm what common sense and scientific medicine both assert, that the thirtieth, fiftieth, or two-thousandth dynamizations are simply nothing. The breath of a wild pigeon as it cuts the air of the upper heavens more thoroughly impregnates the atmosphere of the globe with carbonic acid than any globule of sugar is impregnated by the high potencies of charcoal or aconite or opium. Homeopathy is as widely separated from all rational medicine as the nadir from the zenith. The line of distinction between them is as wide and palpable as the line between the astronomy of modern science and the astrology of the ancient magi. The one is a recognized system of truths, full of practical results, which strike the common sense of mankind; the other a tissue of legerdemain jugglery, incomprehensible to science and common sense, and comparable only to the feats of the prestidigitator, who imposes upon the understanding by seeming to do what he does not do.

It is no sufficient answer to say that men of intelligence practice the system. Men of intelligence believe in spirit-rappings, and spend worse than useless hours in fancied communion with friends in the "land of the hereafter." Men of intelligence believe that the sun goes round the earth. Men of intelligence belief in polygamy, and practice it with a forty-wife power. Men of intelligence through all the ages have been given up to a strong delusion, and have carried through life a mental warp which held them in square antagonism to all true philosophy, all true science, all true morals.

It is an axiom that a line is mathematically divisible forever. Practically it is not so. A point is presently reached where material substance fades, and there is no medical substance which has not vanished utterly into thin air and therapeutically inappreciable long before that division has reached any of the higher potencies of Hahnemann. But nothing seems to stagger the faith of devotees to this insane delusion. They caution you against the undue use of pellets from some half a score of bottles, impressing you with a conviction of their hazardous force, and yet a child may eat with impunity a whole family box, as one of my own did with evident relish and no damage; and they tell you then that homeopathic medicines go directly to diseased parts only, and of course do n't hurt the healthy man.

Now while we claim that the philosophy of rational medicine plants itself upon the recognized history of disease, resorting less than of old to uncertain medicaments, and relying more and more upon judicious nursing, proper food, plenty of air, regulated temperature, and all hygienic surroundings, mental and physical, the homeopathic fraud consists in imposing upon the understanding by the pretense of potentialized globules of sugar and dynamized dilutions of alcohol.

It is only what we feel therefore when we say we have no respect for the Hahnemannic system. You have all found much fine reading upon this subject in Professor Simpson and Worthington Hooker. I commend them to your reperusal. The grand old Scotchman and the accomplished American stalk as remorselessly and as triumphantly through the mazes of homeopathic pretension and misrule as Burke and Sheridan through the weird and terrible scenes in the trial of Warren Hastings.

Now, sir, in view of this whole subject, infinitely important as I conceive it to be—important to the profession and to the people—what is our plain duty; duty to ourselves—duty to those who look to us for guidance? Just so long as

they remain in the dark touching the nature of disease, touching the powers of medicine, touching the mission of the doctor, just so long will we be tempted—nay, forced—to play the charlatan in the face of their fears. The wild cry for help will come to you when you know there is no help; the demand *to cure* what you know to be incurable will be pressed upon you, and you are tempted to play falsely by a show of power which is not power, thus demoralizing your profession and defrauding your friends. The excited mother, sleepless and wrung with anguish over her fevered child, asking a cure for scarlatina, puts our courage to the test, and many of us, brave enough in the ordinary affairs of life, yet all limp and nerveless in such a presence, have cowered and sunk—sunk to the level of charlatanry and pretense. What else is left to us but cowardice when we have taught her that we have a power which science and experience and truth teach us that we have not. Out-door courage is not enough. The man of science who deals with the issues of life should hold to a higher bravery than that. Despite a little ignorant ridicule, despite a little mortified pride, the doctor, in the interests of his high calling, must be loyal to the truth. Physical courage is much. The determined eye and the set lip play an important part in life's rough battle. They say he's a man of courage. But woe betide the medical man who fears to stand square and firm and still when the highest interests of his profession and the highest issues of life are at stake. Let light in on the people and our courage will come up to its highest requirement.

Very much we have accomplished, I know. Pathology, the philosophy of hygiene, the physical sciences, the idea of history, the mechanic arts, have enabled us to prevent much of evil, to soften much of dread, to keep well in its natural channel and conduct safely to its legitimate end much that no power could arrest or at all eliminate. Very much, I say, have we done in these last fifty years; but not all, not even the half, of what we claim have we really done. Then let

us cease to claim the unaccomplished half. The world is very practical, and if we give it half a chance it will soon understand us and we it. Let us break through the mist and stand in broad daylight. Health requires it; disease requires it; science requires it. We have passed the noon of the nineteenth century. To us, sir, the age of toast-water, hot air, and red blankets is simply matter of history. We claim to have passed by and put away long ago the arts of necromancy and all imposture. Let us see to it that the history we make to-day shall have no tincture of fraud or of false philosophy.

REPORT ON FINANCE.

BY JOSEPH SMITH, M. D.

The chairman of the last meeting of this Society conferred the honor of reappointing your reporter on the Finance Committee. Whether he thought the last report so important for the well-being of this association, and the indication of financial wisdom therein too valuable to be lost, or whether the work in said report was in his judgment so badly done as to justify him in requiring your reporter to "do it over again," must be left to the mature decision of each member of this Society.

Again, the Society at its last meeting by a unanimous vote directed the Publication Committee to publish said report *verbatim et literatim.* In justification of its non-publication allow me to state that, though the manuscript was mailed to Dr. Ulrich for the committee, it was not received by him or them. I am happy to state, however, that the loss either to the Society or to your reporter is not irreparable! The object in writing that report was to afford a little pleasant pastime to the members while in session. Not finding any suggestions in your Treasurer's reports from year to year requiring much financial skill in the management of its funds, and seeing no very hopeful prospect for a very large increase thereof, the report of last year was an attempt to express this conviction by way of pleasant irony. Neither in "matter nor style" was the report worthy of permanent record in the Transactions.

And now, to treat soberly of the financial interests of this Society, what shall your committee say? What do you expect of him? On what basis of facts or of reasonable presumption shall he proceed in making up the report? All true lovers of the profession would gladly welcome one fourth of the physicians in Kentucky into the position of earnest working members in this Society. With such a membership one can easily imagine the extent of work done, and the large increase in size and value of your volume of Transactions—a volume that would reflect a pleasant respectability on the profession in the state—a volume of far more value to each member than the small annual tax of three dollars—and, best of all, a volume that would largely stimulate and encourage the labor of those members preparing reports for publication. Men do not love to labor without compensation either in dollars and cents or in appreciation from those for whom they toil; especially do they not love to put forth that kind and amount of active effort necessary in observing, experimenting, and carefully collating materials in science worthy of themselves and of a permanent record. But give the assurance of a record in good company, in a respectable dress, and before a numerous and appreciative audience, and you add greatly to both the stimulus and the pleasure of the labor.

The field in Kentucky for cultivation is a good one; competent laborers therein can doubtless be had for an honorable compensation. Can and will this Society provide a *barn* suitable and safe in which to store the crop? Was it your purpose in creating a finance committee that by some means, common or uncommon, the funds should be provided to erect such a store-house? If such was the expected result, your committee can conceive of but two ways to meet the desire.

1. To furnish the means for its erection out of his own pocket! But this plan of making up deficits would be of as doubtful morality as the famous Credit Mobilier of recent notoriety. Would you gentlemen accept such a plan? An

old adage says, "That which *costs* nothing is too cheap to be good."

2. The only other alternative clear to the mind of your reporter is that he (or some one else) must induce a sufficient number of physicians to become members that ample funds may be obtained. He is sorry to report that, taking the past history of the *Society's* efforts in this direction as the ground of hope, this second plan seems as *hopeless* as the first one suggested. If after many years' trial only some one hundred and twenty or fifty members are gathered into this Society out of one to three thousand physicians, what can be expected from one so little known to fame, and a single member, on even so high-sounding a title as a "Finance Committee?"

Will the fact that your former President, distinguished as he is in the profession and for wisdom, has reappointed me as reporter give the "efficient potency?" Your Treasurer's reports for the past years and for the present year will, he fears, demonstrate that your Finance Committee, by his and the Society's efforts in increasing the membership and the funds, has only been in result homeopathic; that in money-giving prompted by professional ambition the physicians of Kentucky have largely forsaken allopathy, practically deciding that great results should be had from infinitesimal means.

Kentucky is, we fear, behind the age. She is conservative and old-fogyish to the extent of drowsiness, if not of parsimony, in enterprise, in education, and in manly ambition to use worthily the vast means a beneficent Hand has placed at her disposal. The eldest child of revolutionary sires, out of a magnificent estate purchased at a great cost by our fathers, she had choice of climate, of soil, and of mineral stores, and yet, instead of proving a noble example for our younger sister states, Ohio, Indiana, Illinois, and Michigan, they, tired of following, have stepped forward to lead us and to become our seniors in effort and reputation. Indeed some

of us who are links connecting the past and the present generation in our state are prone to the conviction that those now occupying the stage have degenerated; that they are less noted in reputation and enterprise than their fathers. Some think we now have no such jurists as Boyle, no such statesmen as Clay, and in medicine have not the peers of a Dudley, a Caldwell, or a Drake.

Your reporter graduated in "Old Transylvania" in the day when she was perhaps, in reputation and numbers, the second medical school in the United States. Have we such a quarterly of medical observation and experience as the Old Transylvania Medical Journal? And where is the good old medical society once existing in Lexington in which Caldwell, Cooke, Short, Yandell, and many others had pride in entering the arena of its reports and discussions?

These matters of history are alluded to not so much to institute sharp comparisons as to indicate difficulties in associational success and in our financial prospects. We all desire, no doubt, an increased and more permanent interest in medical improvement, and to this end feel the necessity of a more thorough association; but *how* to attain this is not so readily perceived. Some have suggested an increased annual tax; and there are many physicians who would gladly double the amount, if thereby could be secured for us a more dignified position before the medical world. Would not this, however, largely defeat the object of association? Is it not the great purpose to enlist a larger number of workers, to enlarge the field cultivated, so as not only to get much work done, but more especially to increase the interest and zeal, and to invigorate each and every laborer by the healthful exercise therein? Some from inherent vigor and manly ambition will push forward and make to themselves opportunities for labor; but the mass need the encouragement of fellow-workers. And indeed the self-toiler is mightily helped in giving and laboring by the number of willing recipients of his bounty.

Your committee is of the opinion that an increased annual tax will not remedy our finances. He believes the only practical way before us is by some means to increase our membership by some two hundred. And there occur to him but two ways in which this can be done: 1. By every member of the society becoming a persevering missionary in his own vicinity; 2. Perhaps still more effectually and permanently by organizing county and city societies.

Multiply and sustain these and your State Society will not lack efficiency or members. In our judgment local societies are necessary preparatory schools to our college. In them not only the initiatory but largely the real work of medical improvement is to be had—the state meetings being mainly the commencement exercises. These local societies, by their frequent meetings, apt reports, and lively discussions, beget and keep in vigorous life a love of medical science, an increased desire to attend our commencements, and a demand for some permanent record of the sum of state labor. We are confident that the success in the number and efficiency of the local medical societies is the prime hope of our state organization and of an elevated standing for the profession in Kentucky.

In conclusion, permit me partially to digress, in order to express my surprise that it is so difficult to organize county medical societies. A just pride in our profession, ambition for personal improvement, the noble desire to work in the help of our fellows, and the pleasure of a more intimate acquaintance and association with our neighbors, ought to be ample inducement to start and foster such organizations. But aside from these higher motives, *self-interest*, that mighty power over the human heart, should furnish ample stimulus for their encouragement. When medical societies are efficiently sustained in any community, they become the most effectual molders of public sentiment and the inspirers of confidence in scientific medication. Their frequent meetings and discussions, their social intercourse, and their enhanced

personal regard and professional support, will beget for physicians a popular respect not otherwise attained. This, we are sure, will be the testimony of those physicians who are so fortunate as to be members and living in the bounds of such societies. It is well known to us all that a great cause of our weakness in any community is the jealousies, offishness, and neglect of gentlemanly etiquette on the part of many. The constant social mingling, the kindliness of feeling cultivated, and the enforcement of medical decorum in these societies, tend largely to remove these professional blots, and help much to discountenance and banish chicanery and quackery.

There is such an energy in unity, such a dignity in persistent labor, that only time is needed to overcome all obstacles. Put these forth in Christ's religion, and all the forces of earth and perdition (even of miscalled science) can not resist their power. Give these full sway in science, and error and pretentiousness will disappear as the dew before the rising sun. Let the physicians in Old Kentucky speedily attain to this noble manhood of energy and dignity, let it be shown tangibly in their society organizations, and they will speedily become the beacon-lights of progress and examples worthy of their noble calling.

OBSTETRIC PROCEDURES AMONG CERTAIN OF THE ABORIGINES OF NORTH AMERICA.

BY E. M'CLELLAN, ASS'T SURGEON U. S. A.

The American Journal of Obstetrics for February, 1872, contains an elaborate and learned paper on "Some Ancient Methods of Delivery," from the pen of Goodell, one of the most successful and accomplished gynecologists of the present, who has abstracted from the works of the ancients some notable points of obstetric practice, which, although unknown to the mass of the profession at the present day, are duplicated in the methods still in vogue among some of the inhabitants of the North American Continent.

During a tour of duty in the valley of the Rio Grande del Norte, which extended from the year 1867 to 1871, I was frequently called into positions wherein the peculiar therapeutic notions of the inhabitants were exhibited. In addition to my own experience, that of many intelligent white and native residents were collated, with special reference to the gynecologic history of the Mexicans and aboriginal tribes of this most interesting portion of our country. The facts whereon this paper is based have been collected from

1. *The New Mexicans*, who are the descendants of the Spanish conquerors of America, intermixed with all races and nationalities, who, inheriting the vices and retaining the therapeutic lore of their ancestors, look with suspicion and distrust upon "Gringo Medicine." With them the admixture of Americans has produced no elevating influences

(I note the majority of instances), for the vast majority of white men who drift before the tide of civilization and swell the sum of frontier settlements, although swift and strong to strike when their sexual rights with wife or mistress are tampered with, are morally and physically debased, and in their progeny is shown the effect of procreating in defiance of hygienic laws.

The civilization of the Atlantic and that of the Pacific has been divided by a *terra incognita* in which ignorance and vice held high carnival; but into this region, beautiful as any lighted by God's sun, the flood of civilization has turned, and the converging lines of march from the east, from the south, and from the west meet in the wondrous parks and sunny slopes of the Sierra Madre. Under the mighty sway of that true pioneer of civilization, the hardy American frontiersman, present usages will soon be numbered with the past.

From the necessities of their lives, among which mutual protection from Indian incursions and the irrigation of their grain-fields are conspicuous, the native inhabitants of New Mexico live in settlements along water-courses. Outlying farms until recently were unknown, and are now chiefly occupied by American settlers accustomed to depend upon themselves alone in any emergency. The villages are arranged around an open square or plaza; otherwise no attempt is made at order, each family locating their house (a hut) how and where it pleases them best. These houses are but one story in height, plastered and floored with mud. In the interior the vegas or rafters are exposed, and the roof, which is formed of boards, poles, or rushes, is covered from twelve to eighteen inches with earth.

They contain one or more rooms, ill lighted, badly ventilated, and heated by a small, peculiarly-constructed fire-place and chimney which stands out into the room. In one of these rooms the family live, eat, and sleep. Separate sleeping apartments are unknown. Adults and children, married

and single, servants and visitors, occupy colchons (the most comfortable and luxurious of beds), which are spread upon the floor of the common room.

Strange that in this nineteenth century the New Mexican host and his family are conscious of no impropriety in thus admitting strangers. The only outrage to sentiment they would be conscious of would be in the guest manifesting the least interest in what might transpire around him during the night.

An indolent, sensuous race, of inferior intellect from faulty forebears, it it is scarcely to be wondered that vice abounds. The men are lazy and licentious to such a degree that it is a common saying, "I love not my own wife, but all other wives." They are courteous and hospitable to a fault. "This house and all that it contains is yours" comes from the heart of your host at the moment of utterance, no matter what may be his designs upon you at a later hour.

In the outward life of the female the utmost decorum prevails. If the morals of the community are impaired, it is long before a stranger can avail himself of it. Liaisons are surrounded with difficulties and must be negotiated. A woman of the country living as the mistress of a compartiot or of an American considers herself his wife, and for the time devotes her person to him alone.

Among the lower classes the degradation of woman is an accomplished fact. The Spanish conquerors held their female captives as slaves for their sexual purposes, not infrequently adding the indignity of branding them with their owner's mark. Succeeding generations have but partially improved her condition; she is still the slave of her father, brother, or husband, who not infrequently prostitute her for their profit; and it is only in the present decade that efforts at her social improvement have been made.

Among the better classes promiscuous sexual intercourse, as far as the unmarried are concerned, is almost entirely unknown. While parents upon one hand expose their children

to imaginative excitation, they guard their persons with considerable care. Except in the larger towns, defiant prostitution is unknown.

Menstruation is established between the thirteenth and fifteenth year among those who constitute the better class; but among the lowest—those in whose lives scenes are constantly being enacted which rival in iniquity those reported by Cobden or Mayhew, or, lacking the refinements of vice, equal those of Constantinople or other Mahommedan cities—it occurs from one to two years earlier. Among such people additional arguments may be found to favor the theory "that precocious menstruation" *is* influenced more by licentious practices than climatic influences or hereditary peculiarity. Nor in this case can the argument against such theory be advanced "that the utter depravity and promiscuous cohabitation of the lowest English peasantry and the lewdest classes in such cities as London, Liverpool, Manchester, and Birmingham does not induce precocious menstruation." It must be borne in mind that female children in such condition are both underfed and overworked, while among the New Mexicans the children lead an idle life, with naught to distract them from their natural inclinations; that at an early age they become addicted to the use of tobacco; and that chile or pepper, green or dried, is an invariable condiment of all meals, and used to an excess that rivals the Indian use of curry.

Marriages occur at an early age, often before the menstrual functions have been established. Subjected thus early to the incidents of matrimony, the early menstrual months are periods of irregularity and suffering. Diseases of the uterus and its appendages are developed at an early period. More than one instance came to my knowledge in which ovulation was followed by impregnation, but the wife never menstruated until one or more children had been borne.

The disorders to which these females are liable can in part be attributed to the neglect of hygienic laws and the

indolent life which they lead. The surface of their body is rarely protected, save by a chemise, skirt, and shawl. Undergarments are almost unknown. The extreme altitude of the territories occupied by their race, the sudden and great variations of temperature to which they are exposed, are fruitful sources of uterine diseases, while the peculiar domestic relations and the stimulating diet which have already been noted, combined with the erotic imaginations of indolent vice, co-operate. "To excite, but always in vain, is to provoke disease, irritate the body, and desiccate the soul."

Abortions are rarely procured; sexual frauds (so-called) are never attempted; infanticide is almost unknown. Masturbation prevails to some extent among both sexes.

2. *The Pueblo, Apache, Navajoe, and Ute Indians.*—In the year 1540 the Mexican Viceroy Mendoza, attracted by the wondrous stories of the Indians of Mexico, dispatched Coronada with an army to invade "the country of the seven cities." The Spanish commander crossed the Rio Grande, the deserts of New Mexico, wandered through the "Cibola or Buffalo Country," and, led on by the delusive stories of his guides, even crossed the mountain-chain to the headwaters of the Arkansas. Retracing his steps, at last upon the banks of the Rio Puerco of the West he came upon the Seven Pueblos of the Moqui Indians, so numerously inhabited that in 1850 they are reported as containing 10,850 souls. He here found a race identical with the Indians, who had been already conquered in Mexico, living in towns peculiar in their construction, and from whence their name was derived.

It is these Indians, of whose forcible conversion the romantic histories of the Spanish conquest teem, who once and again arose in strength and all but exterminated their oppressors. They still live in permanent settlements, cultivate farms, and, although baptized in the ritual of the Roman Church, retain the language, dress, and traditions of their ancestors. They mix constantly with the other inhabitants of the country, but instances of intermarriage are rare.

The early history of the Apache Indians is involved in great obscurity. Their ancient lines of depredation correspond with those of to-day; and authorities make no doubt that to them should be attributed the destruction of that semi-civilization of which traces are to be found on the Rio Gila. Coronada found them to be as fierce, sanguinary, and treacherous as do the frontiersmen of to-day. Living in huts made of brush, they range through the headwaters of the Gila, in the Sierra del Mogoyen, where their rancheries are almost impregnable to their enemies, and where by a series of signal-fires they muster bands of marauders.

Promiscuous sexual intercourse among the unmarried of the tribe is common. They are polygamists. The women are unclean and debased.

The Navajoes are undoubtedly a branch of the Apache tribe, although the date of separation is unknown, occupying a rugged, mountainous region, living, in the rudest of huts, a drunken, worthless life. From a brave and warlike race they have degenerated morally and physically. The women are debased and prostituted to the vilest purposes. Syphilitic diseases abound.

The Utes, inhabiting the elevated plains of New Mexico and Colorado, are brave and warlike, but suspicious and perfidious. Polygamy exists among them. Their females are rigidly secluded from strangers, and they compare most favorably with those of the other tribes.

These Indian tribes, having been always hostile to other residents of the country, as well as to each other, have been accustomed to make an occasional truce with Mexican settlements, from whom they receive many of the necessities of their lives, and for years a trade was carried on in the sale of peons or slaves of those unfortunates captured from each other. The female peon invariably became the mistress as well as the drudge of the Mexican. She was held in perpetual bondage, save when a raid of her tribe might be made upon the settlement in which she was held, when possibly

she might escape, taking with her all the impressions of her captivity.

A female captive of the whites or Mexicans rarely escaped. Should she survive the first atrocious sexual indignities to which she was subjected, she became the wife of some "buck" and the mother of his children.

In these tribes menstruation is established at from the fourteenth to the sixteenth year. Menstrual disorders are common, but they seldom reach the eye of intelligence. Menstrual superstitions abound. At this period the woman is "unclean;" "she must not remain in camp, but must live apart." They are married young, without reference to menstruation; pregnancies are delayed, and families rarely contain over three children. Twins, triplets, or monstrosities are almost unknown.

Among Indians pregnancy and parturition are fraught with the same dangers as they are to civilized women, although the exposed lives they lead prepare them to brave and overcome perils to which delicate women succumb. That easy and unassisted labors occur there is no attempt to deny. Indian women do step out from the line of march into the brush and at night come into camp with a new-born child. Authentic instances are in our possession of delivery being effected in strange positions and under curious surroundings. One in which a Blackfoot woman, taken in labor at a frontier house, went out of doors to a sheltered position on a snow-bank, there delivered herself of the child, and returned to the house; another, of an Osage, who was taken in labor while on horseback and on the march; she delivered herself and dressed the baby, although her pony never left the trail; but it must be known that she was riding upon a large, broad pack, upon which she could recline. These cases, however, for heroism do not compare with the young woman whose case is related by Dr. Bassett, who unassisted performed the cesarian section upon herself while lying upon a snow-drift.

The fact having been established that the destinies of these four families or races were at an early day influenced by the Spanish conquerors of America, who brought with them the practices and superstitions of the mother country; and who, to preserve the object of their lewd desires, if not actuated by sentiments of affection, would afford them assistance during parturition; it will not be wondered that we shall find among their notions of obstetric aids many similarities to the procedures which Goodell has collated from the ancients, even to the Homeric version of the posture assumed during labor by the mother of Apollo and Diana.

To the Mexican female parturition is attended with greater danger than it is to those of more civilized races, on account of the extraordinary manipulations to which they are subjected by their attendants. The fact has already been noted that in the houses inhabited by them the rafters are invariably uncovered. In commencing housekeeping their arrangements would be incomplete without two strong iron hooks, which are driven into said rafters about two and a half or three feet apart. The location selected is generally a little off the center of the roof and toward the fire-place and chimney, said hooks being destined to play an important part in the obstetric history of the family.

The patient having declared the occurrence of labor-pains, all the near friends of the family are summoned, male as well as female. Two stout ropes are secured to the aforementioned hooks, the floor beneath them is covered with undressed sheep-skins, and upon these the patient kneels, with her thighs widely separated, her body maintained in its upright posture by aid of the ropes. A male, selected on account of his strength, and to whom the term "el tenador" (the one who holds) is applied, now places himself on the floor behind the patient, encircles her waist with his arms, so that her buttocks rest upon his abdomen, and commences a steady, constant, and oftentimes violent pressure upon the uterine tumor. The midwife stations herself upon the floor,

but in front of the patient. Her duty now is to knead, and, if too long a period occurs between the pains, to seize the abdomen with both hands and execute a series of spasmodic jerks. When not thus employed she constantly manipulates in order to soften the genitalia.

In this position and thus assisted the patient is kept until nature, assisted by the strength and awkwardness of the attendants, effects the delivery, or they become convinced that some other procedure must be resorted to. During all this time "el tenador" keeps up his pressure, increased when the pain comes on, and if possible never relaxed, so that the advance gained may not be lost. No care is taken of the perinæum, nor does the idea occur to them that this may be necessary; they expect it to "rip," and if an unusual laceration occurs the patient suffers in silence.

The child having been delivered, the patient is placed upon her back and allowed to rest for a time. If the placenta be not expelled, they proceed to effect its delivery by strongly compressing the abdominal walls, by traction on the funis, and by shifting the patient from one side to the other. When successful the woman is placed upon her bed with unchanged clothing, a long, narrow woolen band is wrapped many times around her abdomen, her head is bound with linen cloths, and she is ready to receive the congratulations of her friends.

As to the child, a rather curious custom prevails as to the treatment of the cord. It is cut from three and one half to four inches in length, a stout ligature is applied about one inch and a half from the umbilicus, when the midwife with a brand of fire proceeds to char and roast all that portion beyond the ligature. Many superstitions exist by which different communities are influenced as regards the treatment of the cord. All unite in affirming the necessity of adopting measures which will prevent the cord from ascending within the maternal abdomen, thus becoming lost; and once lost the only guide to the "after-birth" is gone. Some

midwives will not sever the cord until the placenta is extracted; others make bold to do so, but always adopt the precaution of attaching the placental extremity by a stout cord to the thigh of the patient. So much for cases in which nature asserts her power and delivers the unhappy woman from her tormenters.

In cases where much delay occurs, or where after the labor has progressed a considerable time the midwife can not feel the descending head, although profoundly ignorant of presentations and positions, she announces that some other procedure must be resorted to. Before adopting the more complicated of their devices they endeavor to soften the parts by applications of steam and smoke. To accomplish this a basin is filled with glowing embers, upon which is sprinkled a powdered aromatic root, the basin is placed between the thighs of the kneeling woman, and its exhibition is continued from twenty to thirty minutes; or a large vessel of water in which is placed certain herbs is caused to boil and the vapor to arise to the person of the patient. These simple means being ineffectual, the patient is caused to stand upright, when, several of the strongest persons present taking her by the shoulders and knees, she is violently shaken, which exercise is closed by a series of short, sharp, wrenching jerks. She is then placed again in the "ropes," and the squeezing process is resumed. Being still unable to deliver the child, the operation is repeated, and if still unsuccessful it is varied by suspending the patient head downward, her person being held as in the preceding maneuver. Should these efforts be still unsuccessful, the midwife announces that it is necessary to change the position of the child. She proceeds to remove all articles of clothing from the lower portion of the patient's person. A large, shallow wooden bowl is placed over her abdomen and turned quickly from right to left with a grinding motion. Should this still prove ineffectual, a horseman is dispatched for the nearest American doctor, a rosary is placed about the

patient's neck, and all present join in commending her to the saints.

San Ramon or La Niña (the Virgin) are the most powerful to whom recourse can now be had; and as the doctor often lives fifty, sixty, or more miles away, ample time is afforded for their intervention. If one will not help, in spite of candles or other offerings, the other will surely take advantage of his or her colleague, and lend his or her most efficient aid. But saints, even the best, seem at times disinclined to aid humanity, or they may be too much occupied with other affairs, when the only recourse the poor mortals can have is to discover the particular saint on duty at that particular time. A large candle is notched with the thumb-nail to ten, fifteen, or more equal spaces; each space is designated by the name of some saint; the candle is lighted, and as soon as it burns down to the allotted portion of the then well-inclined saint he will help right willingly, and try his best to effect delivery before his short time melts away. But with the passing light of the candle wanes the strength and life of the poor patient, buffeted and distressed, rent by useless, senseless torture; and not unfrequently she passes to her final rest with a smile at last upon her tired, weary face, while the earnest, anxious doctor is galloping weary miles, trusting he may yet be in time to afford her some relief.

Of our professional brethren, he who devotes himself to the relief of suffering humanity in frontier settlements surely earns the brightest crown. The remarks of the President of the American Medical Association, at its last meeting, on the "pine-board hut" which served as home and office for the doctor of a Rocky Mountain railroad station, apply with equal cogency to hundreds of our profession. To our mind arises the face of a valued friend, a pupil of the illustrious Niemeyer, who devotes his life to an almost missionary work among the Mexicans. Separated from his home and kinsmen, undeterred by the pangs of hunger or fatigue, undis-

mayed by the dangers of field or flood, by day and by night, he renders to the ignorant and superstitious inhabitants professional services which in older countries would secure to him the smiles of fame and fortune.

The description which has been given is the modern practice of obstetrics among these people. Until quite recently the obstetric chair or stool was in vogue among them. Of what the ancient stool consisted we have been unable to learn; the modern was a large chair, in which "*el tenador*" first seated himself; then the patient squatted upon his knees, with the inevitable arm and rope accompaniment.

The obstetric customs of the Pueblo Indians closely follows that of the Mexicans, if they are not in all points identical.

The Apache woman when labor commences is placed in a small hut and left to herself. Should her band be upon the move, sufficient food is left with her, and she is abandoned to her fate. If the labor terminates favorably, as it most always does, she regains her party. But instances are known in which scouts through the country infested by these Indians have discovered the remains of mother and child in these isolated huts.

The Navajoes, from being many years in a state of subjection, have adopted many of the customs of the Mexicans. A fatal termination of labor is rare. The parturient female assumes the posture of the Mexican in similar cases, and is supported by a lariat thrown over a limb of a tree, or she supports herself from a low branch. But the assistant is now in front, and aids the woman during pains by a finger inserted at the umbilicus, from which point pressure is made steadily upon the fundus uteri.

The Ute female in summer accomplishes her labor in the open air, squatting or kneeling by a tree which they may conveniently grasp. They are assisted by a band passed around their abdomen, and which is managed by an old woman. Lingering labors are treated as by the Mexicans,

with the exception of rapid and violent changes of position, the patient being suspended in a blanket or robe.

To what accident may not a parturient female of these nations be subjected? To them the promise is indeed fulfilled: "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children." But the same almighty power to whom the devout Arabian physician ascribes the determining cause of labor—"At the appointed season labor comes on by the command of God"—carries the majority successfully through their trials.

A friend, who has acquired a considerable obstetric experience among their people, remarks: "It is suprising with how little difficulty girls of fourteen or fifteen years of age are delivered in childbirth. It is by no means an unusual occurrence for a labor to be terminated in six or less hours, and the only difficulty experienced is in persuading them to remain recumbent a sufficient time."

Hemorrhagic labors are frequent. The American physician is most frequently called from that cause; and also to deliver the placenta. Nor is it surprising that inertia or irregular contractions should succeed the treatment to which the patient has been subjected.

Thrombi of the labia and vulva are frequently met with; while ruptures of the uterus, situated fortunately most frequently at the cervix, are by no means rare. Two cases of fracture of the ribs from the violence of attendants came under our notice.

For retained placenta the midwife has no remedy save binding a cord around the abdomen of the patient, and this, with an occasional dose of a powder obtained by burning the ears of a freshly-killed hare, is the only means at her command for arresting hemorrhage. Tradition, in the settlement of Socorra, points to an old woman who was taught by a Padrê to take the after-birth by the hand; but she was probably a myth. At all events she has left no successor.

REPORT ON SURGERY.

BY J. W. THOMPSON, M. D.

As chairman of the Committee on Surgery I shall endeavor briefly to present some of the recent improvements in the science and practice of that branch of the profession, understanding that to be the duty with which the committee stands charged.

WOUNDS.

In the treatment of wounds the course pursued by leading surgeons, both in Europe and this country, is to do very little in comparison to the practice of former days.

Cleanliness is regarded as one of the most essential things connected with the treatment of all classes of wounds, as is also the strict observance of the laws of hygiene in all the surroundings of patients of this class.

It has also been satisfactorily established that the crowding together of large numbers of wounded is very detrimental, and therefore the system of smaller hospitals is being adopted in portions of the world, and many efforts are being made to prevent such concentration.

The practice of treating wounds with ointments and salves has in a great measure been thrown aside by intelligent surgeons—water-dressing, both cold and warm, and the application of solutions of carbolic acid and permanganate of potash and other disinfectants, being relied on almost exclusively.

There are some eminent surgeons who do not think that carbolic acid has proven a very successful remedy in the

treatment of wounds, and who have therefore discarded it from their wards and practice. Their number, however, is comparatively small, most surgeons regarding it as an invaluable remedy.

The treatment of wounds by application of cotton-wool is recommended by some London surgeons, and in this country especially by Professor J. Warren Green, of the Medical College of Maine.

STUMPS.

There seems to be but little change in the treatment of stumps from amputations. Many surgeons recommend and practice the introduction of fewer sutures, leaving wounds well open, to facilitate thorough drainage. This seems to be based on sound judgment, and it is thought will increase the percentage of success.

AMPUTATIONS.

There is little to be said of improvements in amputations. Experience during our late war and since has shown that the success of knee-joint amputations is about seven per cent. greater than that of lower third of thigh. This advantage in saving human life is very great, and should encourage us to amputate at the knee-joint when the choice is between those two points.

It is regarded as a settled fact that secondary amputations at the hip-joint are more successful than primary operations. The reason for this is that the system, having become inured by prolonged suffering and drainage from wounds or disease, bears the shock of the amputation better than when in a primary condition.

To sever one fourth of the human body is a very serious matter, and should be deliberately considered in consultation with the ablest surgeons in reach. Yet this operation in some instances offers the only hope (faint, it is true) for the patient's life. And when a fatal result is inevitable

without such an amputation we should operate, and give the patient in this, as in all cases, the benefit of even that slender chance.

A surgeon with knife in hand, ready to perform hip-joint amputation, should feel as did the great Velpeau, who before performing any capital operation offered a prayer to the Almighty that he might do right. I make this allusion to illustrate the gravity of hip-joint amputation.

RESECTIONS.

The reports from resections of bones are favorable and encouraging. The results from this operation during our late war have done much to establish its success on most, if not all, the bones of the human body.

My report on this subject, embracing forty-eight cases, read before this body at its last meeting, gave the condition of the limbs at from three to eight years after the operation, and showed most satisfactory results. The statistics I have collected since are still much in favor of resection over amputation.

Many surgeons, it seems, prefer making hip-joint amputation to resection of upper third of femur. The success of the former is but little encouraging, while experience with the latter is sufficient to give us a hope that it will save a much larger percentage of lives. Every true surgeon will strive to discover the operative procedure which will save most lives, and keep his ambitious desire for display in the amphitheater or before the observing crowd of medical men, in perfect obedience to the course that will produce that much-desired result. Resection of bones is being much more extensively performed in civil practice in this country, and also in Europe, especially in France and England. While there are some points yet unsettled, I think it sufficiently established to be very favorably regarded by the profession.

EXCISION.

Excision of bones was practiced to considerable extent in the late Franco-Prussian war; but sufficient time has not yet elapsed to demonstrate its success or failure. But the known zeal of both French and German surgeons assures us that at the proper time the results will be published to the profession, which will greatly assist in placing the true estimate upon the operation.

FRACTURES.

In noticing improvements in treatment of fractures I shall quote a very expressive and forcible paragraph from the preface of a translation of Velpeau's Surgical Lessons, by W. C. B. Fairfield, of Dorchester, Massachusetts: "Velpeau advances with the heavy tread of a mighty battalion; tears off the cerements that have so long enwrapped the fair form of surgery; and if she stands stripped of the bandages and appliances that have so long arrayed her, she is all the more graceful and lovely."

This elegant comment is upon a little book of one hundred and three pages (his last utterance); but there is more compressed surgical truth in it than in any book it has ever been my fortune to read. I peruse it two or three times every year, and am of the opinion that if he had done nothing else for surgery, by writing or otherwise, it would still be a monument so enduring that posterity for ages to come would refer to him as "Velpeau, the greatest surgeon of his day." Surgery does stand stripped of the bandages and splints of former days, and there is not only a beauty in it, but practical good has resulted from it, which can not be overestimated. It enables us to watch the condition of wounded limbs, and to meet promptly any difficulty that may suddenly arise, thereby saving a much greater proportion of limbs and lives.

Improvements in the treatment of fractures apply more

particularly to the lower, but in some measure to the upper, portion of the limb.

The use of extension with adhesive plasters and the perineal band in fractures of the thigh—first introduced by Dr. Swinburn, of New York—has given satisfaction, and is, in the experience of most surgeons, best adapted to this class of fractures. As I have before stated, the surgeon can more closely observe the condition of the limb, and meet promptly any unpleasant symptoms that may threaten. The use of sand-bags in treatment of fractures of the thigh and leg is exceedingly valuable. When support is required I am satisfied that they are preferable to any kind of splints, on account of their adaptability and their coolness in the warm season. I have used them a great deal, with most gratifying results. The use of plaster of Paris and the immovable paper bandage dressing belongs to the recent improvements in treatment of fractures. They are much used, and doubtless possess great merit.

Professor Hamilton, of Bellevue College, among others, recommends in fracture of the shaft of humerus bandaging over the splints from the elbow up, not to include the fore-arm, taking the position that dressing should not be tight enough to obstruct the circulation, and therefore the bandage to the fore-arm is superfluous and unnecessary. The suggestion seems to be a good one, and deserves the consideration of the profession. During our late war, while I was in charge of Forest Hospital (Confederate) at Lauderdale Springs, Miss., Dr. S. N. Denham, the assistant surgeon in charge of Ward No. 1, almost invariably began to apply the bandage in fractures of the shaft of humerus at the elbow-joint. I felt some uneasiness about his course, but he assured me he would watch his cases closely and allow no bad results to come from it, and no unpleasant symptom was produced from this manner of dressing in his hands.

The great progress in treatment of fractures is in being able to keep the limb under vigilant supervision, and the

shortness of time required to apply the dressing, which is no small matter in busy practice.

DISLOCATIONS.

The principal late improvements in the treatment of dislocations are the substitution of manipulation and anæsthesia for the severe treatment with the pulley and other harsh procedures.

ORTHOPEDIC DEFORMITIES.

Orthopedic surgery is steadily advancing in this country and in Europe. Opinions are very different now from what they were a few years ago in reference to the causes of club-feet. Until recently these deformities were attributed to contraction, and the knife was relied on almost entirely as the treatment. Scientific investigation and experience have proven that the difficulties are due for the most part to paralysis or want of nerve-power, and therefore the treatment which seems to be proper has substituted friction, electricity, and suitable mechanical appliances for that of severing the tendons. More credit is due to Barwell, of London, than to any one else for the discovery that paralysis is most frequently the cause of the different varieties of club-feet, and to the same distinguished surgeon are we indebted for many of the mechanical appliances now successfully in use by our profession. But we owe most to Scarper for proper appliances in treatment of orthopedic deformities, most of the improvements being to a great extent modifications of his original club-foot shoe. Surgeons in this country have done much in the advancement of this branch of the profession — Sayre, Andrews, Prince, and others.

RECTUM.

Much and satisfactory progress has been made in the treatment of diseases of the rectum. It has been simplified, and much comfort and good have been the results. No longer are patients required to sit in hot water, and strain to

bring the diseased parts down to a point accessible for an operation. Forcible dilatation with the thumbs first placed in opposition readily develops the hemorrhoidal tumors, and the operation is comparatively easy, with no permanent injury to the sphincter muscle. Dr. J. C. Nott has invented what he calls a rectilinear ecraseur. He claims that with this instrument we may avoid the hemorrhage liable in the use of the ordinary ecraseur. He also holds that it is less apt to produce rectal stricture, as it does not embrace so much tissue. This invention is regarded very favorably by the profession, and promises to be one of the most valuable of the recent instrumental improvements. The ecraseur is used by many surgeons for the removal of hemorrhoids, but many yet claim that the old plan of operation by ligature is more successful. Among the number is the classic scholar and scientific surgeon, whom the profession in this country regard as the leading authority in diseases of the rectum—Professor Van Buren, of Bellevue College, New York. He regards the injection of cold water with a simple Davidson syringe as one of the most valuable adjuvants in the treatment of diseases of the rectum, on the ground that it prevents constipation and gives tone to the bowels.

Dr. Gustave Simon, Professor of Surgery in the University of Heidelberg, has introduced a method of exploring the rectum by the insertion of the whole hand and portion of the fore-arm, the patient being thoroughly etherized. In adults the hand is easily introduced (unless its circumference exceeds nine inches) without injury to the sphincter. In children he only inserts two fingers. If the sphincter muscle is very rigid, it may be severed. He prefers to make the cut near the os coccigis. He passes his hand to the sigmoid flexure. Dr. Nussbaum, of Munich, is said to have practiced the same method, passing his hand beyond the sigmoid flexure. If this procedure should prove successful, it may be the means of doing much good, enabling us to remove the various causes of obstruction in the bowels, and examining

the condition of the womb, ovaries, and other contiguous organs.

URETHRA.

Stricture of the urethra is now in almost every case treated safely and satisfactorily, it matters not how narrow it may be. Gradual dilatation is very favorably regarded by most surgeons. An important and valuable injunction from the learned Sir Henry Thompson, to use no force in dilating stricture of the urethra, is, I think, based upon sound knowledge. The old plan of forcible dilatation often produced a false passage, which is a serious misfortune. Holt's and Sir Henry Thompson's instruments for forcible rupture of stricture are both valuable inventions. I have often used Holt's instrument for gradual dilatation, with gentle instead of forcible manipulation, with most satisfactory results.

Internal urethrotomy is now confined for the most part to stricture in the spongy part of the urethra and in front of the subpubic curve, though I do not think internal division of stricture is in much favor. Electrolysis, a means of treating stricture, has been recently recommended by Malley Bantista, and other surgeons in New York; but this new method, not yet having stood the test of time and experience, can not be pronounced upon here. The aspirator, a very recent invention, is regarded by many as a valuable addition to surgery. It is used for drawing off fluids from the body, more especially from the cavities. I have read several reports during the past year of the use of this instrument in pumping urine from the bladder, in retention from impermeable stricture and other causes, with perfect success, and followed by no inflammation or other unpleasant symptom. Should it prove to be a safe and satisfactory mode of relieving retention of urine, it will be entitled to high rank among modern improvements.

LITHOTOMY.

I know little of improvement in lithotomy during the past few years. The mooted question seems to be, Which

is the most successful operation—lithotomy or lithotripsy? It is difficult to justly compare the merits of these operations; for by lithotripsy only small and soft stones can be removed, while the larger ones are reserved for lithotomy. The danger of the operation is certainly increased in proportion to the size of the calculus. If by lithotripsy large and hard stones could be removed, a reasonable comparison might be made, but with the present adaptability of the operation it can not.

I see a new suggestion in lithotomy made by that promising young surgeon, Dr. Ashhurst, of Philadelphia, in his work on Surgery. It is in dilating the urethra and neck of the bladder to pass the finger over the curve of the staff instead of under. He thinks the dilatation is more effectual and safer. Before Dr. Ashhurst's Surgery was published I had pursued the same course in three operations with success. I made no publication of it, and therefore Dr. Ashhurst is entitled to credit for whatever is original in it. Lithotomy is now, and has been since it was first well established by Cheselden, considered one of the most capital operations in surgery.

LITHOTRIPSY.

Lithotripsy was resorted to at a very early day, but fell into disuse to a great extent on account of the clumsiness of the instruments used or want of proper skill in operators of that time. Civiale invented a lithotrite in the year 1824, which he used successfully, and from that time lithotripsy has been well thought of, and the instruments used in the operation have from time to time been much improved by himself, Leroy, Sir Henry Thompson, Furgerson, and others.

Dr. E. M. Moore, Professor of Surgery in the University of Buffalo, New York, has recently made a very ingenious invention for grinding or shaving the stone, and completing the operation at one sitting—an advantage not afforded by any other instrument in use. Dr. Moore has used it with

success, and should it continue to give such satisfaction it will be invaluable, and will settle the question as to the relative success of lithotomy and lithotrity, and doubtless give preference to lithotrity. The instruments of Sir Henry Thompson require often several sittings to complete an operation, and with the same success at one sitting the invention of Dr. Moore will be received as a great improvement. Dr. Moore, with many others high in the profession, have considered lithotomy as the most successful operation. Lithotrity can only equal it when the operation can be finished at one sitting.

OVARIOTOMY.

The history of the operation of ovariotomy must excite the pride of every medical man in Kentucky, especially if he is "to the manor born." Of all major operations this is to-day attracting the most attention, not only in this country but throughout the Old World. This is undoubtedly entitled to be called *the* major operation in surgery. Much progress has been made in its success in the last few years, and it is not surprising when we consider the talent of such men as Spencer Wells, Baker Brown, Clay, and Keith, in Europe, and in our own country Washington and John Atlee, Peasley, Thomas, Sims, Emmet, Kimballe, Dunlap, and our own Bradford.

There are many points connected with this operation which time and experience only can decide. Spencer Wells and Keith have lately made several operations of ovariotomy with the knowledge that pregnancy existed without causing abortion or producing a fatal result. This is a new era in surgery.

The plan of injecting warm water or *intra-peritoneal* injections for threatened *septicæmia*, first introduced by Peasley, has done great good, and must be considered among the modern improvements. It is questionable whether this will not add as much to the fame of this distinguished surgeon as his late excellent work on ovarian tumors.

Electrolysis has also been recently recommended for the treatment of ovarian tumors, but the limited experience with this mode will allow us merely to revert to it, and leave its just merit to be vindicated by time.

Would that we could discover some plan of treatment other than cutting a woman open for the relief of a disease which neglected must in a short time result fatally.

Vaginal ovariotomy is recommended and has been successfully performed by that distinguished and candid surgeon, Dr. T. G. Thomas, of New York. It may prove to be a valuable substitute for the ordinary operation.

The pedicle has attracted much attention for years, and it has now become questionable whether or not too much credit has been given to its disposition in influencing the success of the operation. Almost equal success by the various modes induces us to think that the treatment of the pedicle has been overestimated, other things having equal bearing on the result.

Keith, of Edinburgh, whose successful career as an ovariotomist since 1863 has scarcely been surpassed, recently, in reply to a question as to what part of his treatment he mostly attributed his success, said: "I don't know; I wish I did." He relies more on minute attention to all the different stages of the treatment and operation than to any special part of the procedure. This is the candid statement of a great ovariotomist, and I doubt not its truth, for proper and attentive preparation and after-treatment have begun to be considered as much or more conducive to success than the operation itself. As I have stated, the different modes of treating the pedicle have yielded very near the same percentage of success; and the success of the leading ovariotomists, with all the modern improvements, is but little greater than that of McDowell, the father of ovariotomy; and so much attention having been given to the disposition of the pedicle, it appears, as Keith intimates, that the success of the operation would have been greater if more attention

had been given to each and every particular in the management of the case.

Spencer Wells, now the most distinguished ovariotomist, is the most prominent advocate of the clamp, and, if possible, he always treats the pedicle externally.

Washington Atlee, of our own country, is somewhat partial to the actual cautery and ecraseur. He stands next to Mr. Wells in notoriety, and justly so. It was through his courtesy that I first saw this operation performed in the spring of 1869 in Philadelphia.

Dr. Keith, of Edinburgh, the next most famous, is a much younger man, and bids fair to make a name in this operation equal to the most eminent. He treats the pedicle mostly but not exclusively with the clamp.

The method of Dr. Miner, of Buffalo, New York, in treating the pedicle by enucleation—that is, by carefully separating it with the fingers from the base of the tumor or cyst, requiring neither clamp nor ligature—is a great modern improvement. It seems to be gradually becoming more popular in America, and many regard it as the greatest addition to ovariotomy since the operation of McDowell in 1809.

We must confess, however, that the treatment by enucleation has not been sufficiently tested by experience to give it a decided position, though it is mentioned with much favor in the literature on the subject. The rectilinear ecraseur invented by Dr. Nott, which I have mentioned, is reported to have given satisfaction in its application to the pedicle.

The treatment of the pedicle by torsion of the vessels is a recent improvement which is favorably regarded, and the success of torsion of the large arteries is entitled to high consideration. This plan was first suggested and practiced by Dr. Bebee, of Chicago. He had used it successfully six times when he made his report. As before mentioned, the advance in surgery has tended to simplify it, which is positive proof of progress.

Dr. J. Marion Sims has forcibly recommended puncturing the vagina with a trocar from above downward, and establishing drainage by means of india-rubber tubing after the plan of Chassargnac. He states that for want of proper drainage many patients in this operation are lost from septicemic poison. There is no doubt, as claimed by Dr. Sims, that the natural channel for drainage is through the Douglas *cul-de-sac.*

I lost a patient under ovarian operation last summer, and if Dr. Sims had been with me he could not have given a better history of it than his description of the course such cases pursue after this operation. In my report of this case in last February number of the Richmond and Louisville Journal I stated that "she died with all the symptoms of blood-poison just before the end of the fourth day," though I was aware that according to most authors death from blood-poison occurred at a later period. Dr. Sims holds that many patients die in that time or sooner from septicemic poison, for the want of proper drainage. I am very hopeful that his mode of drainage will materially lessen the mortality in this operation.

TRANSPLANTATION.

Transplantation of integument for the cure of chronic and stubborn ulcers is engaging some attention, and with favor, on the part of the profession in this country and in Europe. The credit for the operation as it is now generally performed is due to M. Reverdin, Intern at La Charité. Professor F. H. Hamilton, of Bellevue College, has given this subject much attention, and no doubt entertained the idea of skin-transplanting as early as 1847. His experience has been principally in Bellevue Hospital, where opportunities for such practice are very extensive. Mr. Steele and Mr. Fields, of England, and a number of American surgeons have spoken well of the result of skin-grafting in the treatment of ulcers.

TORSION.

Torsion for arresting and preventing hemorrhage is considered a safe and valuable substitute for the ligature, not only for small but for the largest arteries. It is practiced both in England and France, and has been accepted as a proper procedure for the past few years. Dr. J. Marion Sims, of New York, reports that he applied it to the arteries in hip-joint amputations at the battle of Sedan, with as much confidence as to those of the ankle or wrist, for McCormac, the operator; and at Guy Hospital, London, it is applied with the same impunity. Torsion is the almost universal rule there in amputations and resections. There has not been a ligature applied to an artery there for some years. I have never resorted to torsion of the large arteries, but the principle seems to be based upon sound reason. It destroys the internal and middle coats, and twists the external in a cord-like shape. Its action is very similar to that of the ecraseur, and the success of that instrument is well established.

CONSTRICTION.

Crushing, or "constriction," as it is called by Dr. Spier, of New York, who first suggested it as a substitute for the ligature, has not yet been practiced enough to be pronounced upon. Some eminent surgeons, however, think well of it. The crushing is done with Dr. Spier's "artery constrictor," which is described in the recent works on surgery.

ANEURISMS.

The principal improvement in the treatment of aneurisms is by digital compression and flexion. Some European surgeons claim that Professor Vanzet, of Padua, first treated aneurisms successfully by digital compression. It is true, according to authenticated reports, that he first attempted this treatment; but, failing, resorted to the ligature. Dr. Jonathan Knight, of Yale College, first practiced it success-

fully. It has since been extensively used, and is generally well thought of.

The treatment of aneurisms by flexion was first recommended by Ernest A. Hart, surgeon of West London Hospital. It is only applicable in popliteal space and bend of the elbow. It generally requires longer time than digital compression, but it is not so painful to the patient or troublesome to the surgeon. There is no doubt that it has succeeded well in some cases.

Treatment of aneurisms by galvanic punctures has received some attention; but the statistics are very conflicting in regard to it, and therefore time and experience will be required to place it in its true position.

HERNIA.

It is now well established in the treatment of strangulated hernia that too prolonged an effort at taxis is an error, and that the earlier resort to operative procedure would be proper. The dread of operating in these cases, which has heretofore prevented its being resorted to in due time, has doubtless sacrificed many lives. M. Demarquay reports a case of congenital inguinal strangulated hernia successfully reduced and relieved by aspiration. He states that he had never before relieved a case of hernia of this kind by an operation. Therefore, as he succeeded in relieving one case by using the aspirator, it recommends the trial of that instrument in such difficulties. It is highly probable that its adaptability to various operations, and its freedom from the production of bad effects will ere long place it as one of the most valuable of recent improvements in surgery.

Kentucky is noted and justly recognized as the land of statesmen and warriors; and she has equal right to be called the land of distinguished surgeons.

Ovariotomy and lithotomy are acknowledged to be the two major operations in surgery. A humble and unpretending

Kentucky doctor is conceded to be the father of ovariotomy; the operation which, as I have said, is engrossing so much attention in this country and all over scientific and classic Europe. I allude to the late Ephraim McDowell, of Danville, in this state. And the most successful surgeon in this capital operation was also an unassuming Kentuckian, J. Taylor Bradford—a coincidence so remarkable that it almost seems as if intended by the God of nature that Kentucky should take the lead in this operation, which forms the gravest and grandest part of our profession.

Lithotomy undoubtedly stands next to ovariotomy as a major operation; and the records show a greater percentage of success in it by a Kentucky surgeon, even to this day, notwithstanding all the modern improvements. I speak of Dr. Benjamin F. Dudley, of Lexington. Sir Henry Thompson, with all his boasted improvements and modern advantages for performing lithotrity, has not equaled the success of this able and distinguished man.

It is characteristic of civilized people throughout the world to cherish and protect the renown of their men of genius; and it is a noble act of gratitude. France is proud of her distinguished surgeons Dupetran and Velpeau; England of her John Hunter, Percieval Pott, and Sir Astley Cooper; Scotland of her Sir Charles Bell and noble Simpson. But they all must bow in homage to the original genius, courage, and self-reliance of Kentucky's McDowell, to the strong practical mind of her Bradford, and to the matchless skill of her eccentric Dudley. These three grand surgical lights have passed away, and we owe it to their noble genius to protect their fame, and keep their merits properly before the surgical world.

Let our lot be cast in any part of the earth—in England, among the astute and common-sense British surgeons; in Germany, among her minutely scientific medical men; or with the bold and dashing French—and we can rely for passport on the courtesy due Kentucky doctors, full of admiration

for the transcendent genius of McDowell, Bradford, and Dudley. It is beyond dispute that Kentuckians have done more for what is termed major operative surgery than any other people; and this obligates us, as members of the Kentucky State Medical Society, to keep prominently before the medical world the fame of her eminent surgeons. But for the genius and bold self-reliance of McDowell, Spencer Wells, the most distinguished ovariotomist, with his five hundred operations, might to-day be comparatively unknown; Keith, the rising surgeon, who is astonishing the world with his successes, might have but little reputation; and Washington Atlee, who is rapidly reaching the front rank, and making a most enviable fame, might be little known outside the Quaker City.

And since this is the case, let us, as the highest medical body in Kentucky, pledge ourselves to protect and perpetuate our brilliant surgical history; and, individually striving for the best and the right, let us press forward with renewed zeal in the march of science, emulating the work while we outshine the fame of our illustrious predecessors,

> "Who departing left behind them
> Footprints on the sand of time,"

and whose names deservedly stand so pre-eminent.

REPORT ON VITAL STATISTICS.

BY D. T. SMITH, M. D.

In view of the great importance of the subject I regret exceedingly that the materials available have been found so meager that our report upon vital statistics must necessarily be of the most unsatisfactory character. The only collected statistics relating to Kentucky are those of the United States Census of 1870, and the volume of the census reports containing the results of inquiries into vital statistics I have not been able to obtain; and as these reports are soon to be given to the public in a tabulated form from the census bureau, it is natural to conclude that something more than their mere copying is expected by the society.

The whole subject of statistics, in all of its branches, is one which no Kentuckian understanding the demands of the age, and having at heart the welfare and the honor of the state, and a right concern for its future interests, can contemplate without feeling akin to shame. In this age of activity and progress it has become necessary that every community should be fully informed as to the condition of all its interests and of all the influences affecting them. As no leading business-man could reasonably expect to succeed without a carefully-kept system of accounts, so it can be justly said no community or state can reasonably expect to be prosperous without a careful collection and comparison of statistics in every department of its industries; and important as vital statistics may be and are, they are compara-

tively valueless, and their collection impracticable, without carefully-kept statistics in other departments.

True, to a certain extent, private business may be successfully pursued by men who follow in the steps of those who, by industry, care, and foresight, have paved the way and made its pursuit safe and profitable; and so a state may enjoy a certain degree of prosperity by adopting the rules arrived at by the wise counsels of another. But the chances are great that such measures as are by that course adopted must be unsuited to its peculiar condition, and such community must fall short of the measure of self-development which alone can lead to honor, prosperity, and power; and well is this exemplified in the condition of Kentucky.

Contemplating its condition, we find its agricultural interests in most part deplorably neglected, its soil washing away or being worn into utter unproductiveness; its educational system, though much improved, still in a most deplorable state of backwardness. Our state abounding in the richest minerals, we spend the gleanings of our tired soil for imports of the very class that should be to us a source of munificent income. Arts and manufactures are shamefully languishing, while in the higher walks of statesmanship and learning the sons of Kentucky are retreating from the high position of leadership once cheerfully accorded them to a position painfully subordinate.

Only a single daily paper in the state has a creditable circulation, while of the agricultural papers not one perhaps but is kept up as an amateur publication, the editors being compelled to look for support outside of the income derived from the publishing of their journals. To become a prosperous people we must first become a reading, thinking, fact-observing, truth-seeking, and progressive people. Had we followed the example even of pagan China, and kept the soil of the state at the standard of its original fertility, which could easily have been done, every year our produc-

tions would be double in value what they now are, and all the interest depending in any way upon agriculture would have been benefited in the same ratio.

As regards the prolongation of life and the preservation of health, had all the benefits been obtained which the best hygiene and the most improved medical skill are capable of yielding, a far greater amount even in money value could have been economized than any government in the world pays for the diffusion of general knowledge.

Aside from the census of population, nearly all the statistical knowledge we possess in regard to our state is little better than mere guess-work. With no registration of births or deaths, it is impossible to learn their number; and considering the great difference of mortality in different years, it is obvious that collecting reports by census every ten years gives nothing like a satisfactory view of the real state of the case.

In other matters the statistics—if a collection of guesses can be called statistics—are still more unsatisfactory. Who knows any thing definite and trustworthy as to the aggregate of corn, wheat, or other agricultural product raised in the state, or the average amount to the acre? And so it is through the whole list of subjects that concern the state's prosperity. We have a soil rich in varied productiveness, a climate as favorable as any in America for the highest physical and intellectual development, and a stock inferior to no part of the race in natural endowments, while our position is convenient for the interchange of knowledge with all parts of the land, and we can not escape deserved censure, and should not escape deep self-reproach, if we continue to occupy a place behind that of the foremost state in the Union. It becomes us then to awake to renewed effort in every direction of useful energy if we would keep pace with the times, realize our hopes, and perform our duty; and we, as physicians, will not be held blameless if we fail to perform the part in this work for which our

special training qualifies and to which the confidence of our fellow-men encourages us.

All the indications seem to point to the conclusion that the chief advances in the science of medicine in the future will be mainly due to a clearer appreciation of the causes of disease and its prevention. It does not seem likely that advance will be made in the practice of medicine—in the cure of disease—commensurate with the causes at work to impair the strength and shorten the lives of men. Many diseases seem to take their course in spite of all that can be done to cut them short; and it is only barely hoped that some new remedy, efficient in them as vaccination in the prevention of small-pox or quinine in malaria, will reward future research into the already well-tried materia medica; and, for my own part, I doubt much if the time comes speedily when the success of the best practitioners of the present day is greatly improved upon. True, we may by improved systems of education, and the establishment of a higher standard of qualification for the practice of medicine, bring nearly all to the highest standard attainable. We may be able by such means to rid the profession and the people of the pretenders who are now a reproach to the one and a danger to the other. After this shall have been accomplished prevention rather than cure remains rich with promise for the future.

The rapid multiplication and growth of cities, the harder struggle for existence incident to the increasing complexity of our tastes, the increase of sedentary pursuits and other circumstances growing out of our present civilization, are causes that must continually operate to increase such diseases as have their origin in exhaustion of the vital powers.

But even in the presence of these causes public hygiene has reduced the rate of mortality to a wonderful extent in countries where they are in fullest operation; and these hygienic measures, consisting of ventilation, sewerage, and

the like, have found their constant support and justification in the showing made by wisely-collected vital statistics.

The principal diseases in our state that may be influenced by preventive measures are malaria, consumption, small-pox, and drunkenness, though there is scarcely a single one that may not be modified favorably by such measures.

MALARIA.

The number of deaths directly due to malaria, under present means of treatment, is not large, comparatively speaking; but by its influence in aggravating the intensity of other diseases it adds indirectly very largely to the mortality caused by them. Robbed of the terrors that attached to it in centuries past by the discovery of quinine, the great loss of life and time yet due to it directly and indirectly have been in a great measure lost sight of. That loss, however, is still so considerable that it is manifestly the part of wisdom to search for means to abridge its influence. Throughout the South there must continue to be much of malaria for centuries to come, if not for all time. Much of the land is of such a nature that probably it can never be effectually drained, and could not be cultivated to advantage even if drained. But in close cultivation and careful draining lies the only hope of escape from malarial influence. Of course it is not to be expected that any great special effort will be directed to the accomplishment of this object; but it is to be looked for, in so far as it is practicable, along with the general development of all the interests of the state.

CONSUMPTION.

Of all the causes of death, consumption stands boldly at the head. The present extent and the rate of increase of this disease would be truly alarming if it were not for the air of poetic interest thrown about the death to which it leads. The actual pain of the disease being small, its lesions not being open to ordinary observation, and it being generally

regarded as leading with certainty to a fatal result, it meets the conditions of death that the instinct of the race seems to accept with the greatest resignation; for man and beast alike are averse to the idea of sudden death.

I fear I am behind many of the profession in the matter of faith as to the cure of consumption by the administration of medicine, though I have great confidence in the results of hygienic and climatic treatment.

In regard to the climate to be chosen by consumptives, most valuable information is furnished by the vital statistics of the census. From this report it appears that the farther south and the farther from the sea-coast the less the percentage of deaths from consumption. This indicates as the region most favorable for consumptives that extending along the Rocky Mountains from Colorado south through New Mexico and Western Texas into Mexico. The rapid increase of facilities for travel in that region will ere long render it a practicable and easy matter for invalids to visit those parts, and for families having a strong consumptive tendency to take up their abode there before the disease has time to develop. But when we consider the vast number of families suffering from the disease it is questionable whether any means can sensibly affect the aggregate result.

The increasing care now every where taken with children results in helping a great many over the critical periods of early life, who are only to fall by consumption on reaching maturity. If I might suggest preventive means for the young in this connection, I would recommend the abundant use of flannel through the entire cold season and much open-air exercise.

The tender care which saves the weak at the same time stands in the way of the rugged development of the strongest, and it is much due to this, no doubt, that a condition of health closely bordering on disease is being experienced by so large a proportion of men in recent times.

I am not of those who think the necessity of caring for

our sick and helpless fellow-beings an unmixed evil to the race. If we never encountered disease and suffering, either in our own persons or in those so near to us by ties of kindred or friendship as to make us feel a lively sympathy with sufferers, we should soon become a heartless race indeed. And, organized as we are, it may be debated whether the happiness we derive from extending and receiving sympathy does not counterbalance the misery of disease. And since the happiness and prosperity of society must be made up both of moral and material elements, the suffering invalid, teaching us lessons of patience, sympathy, and love, may not in reality be greatly less useful to society than the strong man, adding to its inventive thought and its productive industry.

Whether this be true or not, we are compelled to face the fact that consumption is now and is likely to continue increasing; and if the subject contains a feature of comfort, we harm no one by trying to avail ourselves of it.

ALCOHOLISM.

Judging from the census reports, we might conclude that this heading embraced so small a factor in the production of mortality that it is out of place in a report on vital statistics. Twenty-five deaths of males and two of females are set down as the aggregate for Kentucky of deaths from alcohol and that under the head of deaths by poison. But of all causes of death this undoubtedly is the one most likely to be misreported. Even with physicians there is a great reluctance to return "death from delirium tremens" in their reports; and as for a family telling the census marshal that a husband or brother died from the effects of habitual drunkenness, it is a thing certainly not to be expected.

It is a question then which is to be judged of by individual experience and observation. For the most part the inebriate dies of some intercurrent disease rendered fatal by alcoholism, and this disease is set down as the cause of death. That man

who has been drinking for years, but just keeping sober enough to be on his feet, and who has thereby produced cirrhosis of the liver, died of "dropsy;" the well-to-do or rich man, who has been subject to attacks of mania a potu, died of "apoplexy" or "congestion of the brain;" while thousands of others, embracing many of the favored and gifted of the land, have their cases whispered around among friends, and then appear in funeral notices as having been taken away by the "providence of God;" and withal no record of blasted hopes and wasted opportunities, none of disgraced families, none of insanity, idiocy, and imbecility transmitted to offspring.

I am not among extremists in the matter of abstinence, not one of those who believe that alcohol in all its forms is essentially a poison and an unmixed evil; but that its excessive use renders it one of the most terrible scourges of the human race is a truth that no man can question.

Angry debate of a question like this is ever out of place; and most especially can the friends of temperance and humanity possess themselves in patience at this time in view of the results which the rapid march of events is leading to in the no distant future. The evil is fast working its own cure. Every day more effectual means of preventing drunkenness are being devised and put in operation. In our own state since our last meeting many laws, local in their application, have been passed, prohibiting the sale of intoxicating drinks, and that for localities where it was least to be expected. Kentucky is famously slow in moving; and it may be with confidence predicted that in all the states such measures will soon be adopted as will effectually do away with drunkenness.

The habit of drunkenness is every day coming to be more and more abhorred, and the bar-keeper is in most places, by the very token of his profession, removed from the circles of respectable society. The growing abhorrence felt for drunkenness has no doubt the effect of causing those who

have once taken the downward path to travel it with a quicker pace; but it will deter others from starting.

In our own profession it is pleasing to see how people are coming to discriminate in favor of soberness. Formerly it appeared to be somewhat of a recommendation to a doctor to get drunk. If he could only manage to fall off his horse two or three times on his way to see a patient, he was considered to have proved himself something of a genius. Now people are coming to see that they employ drunken physicians at the imminent risk of life, and are letting them severely alone. It is an exceedingly rare thing at present that a physician recommends to a patient the habitual use of whisky; and it is to be hoped that this is a step which soon no man's conscience will permit him to take.

To the laboring poor most especially does abstinence from intoxicating drinks commend itself, both as a matter of duty to those whose welfare depends upon them and as a means of defense against oppression.

The complexity of wants growing out of our advanced education are all the time demanding greater expenditures for their gratification. At the same time the wealth of the country is being gathered by a system of legal robbery into the hands of great monopolists, whose interest it is to keep the people in the most helpless and dependent condition consistent with the accumulation of gains for themselves. The fates seemed to have decreed that out of the condition of things produced by these causes shall grow, and that before many years, such a conflict as history has never yet recorded.

In the moral world too any man who is watching the course of events can not fail to see influences at work fast preparing men to challenge those who have power of whatever kind, whether of wealth or authority, either to show their right or prove their might.

The divine right of kings is a claim long since dismissed from the last court of appeal—the expressed and enforced

will of the people; and the right to wield power gained by corruption and fraud seems likely at no distant day to be tried as by fire.

It is therefore incumbent at this above all other times that soberness should prevail, that men may think clearly and act justly, to be informed in order to the wise direction of effort, and especially to practice economy in order that dependence may not cripple the efforts that seem so sure to be demanded.

Numberless reasons then may be given for putting it out of the power of men to fall into the debasing habit of drunkenness, and to incur the waste of habitual indulgence; and in the hands of the medical profession above all others is the power to contribute to its speedy consummation.

SMALL-POX.

During the year just past some parts of the state have suffered largely from an epidemic of small-pox. This has been especially severe in the city of Louisville.

The mortality from this cause has been very large even as reported. But any one acquainted with the working of the health department of the city government will not accept the reports as any thing like a true showing of the actual mortality. The law required that every house in which small-pox occurred should be designated by a yellow flag. This to the great mass of people was surprisingly distasteful. It being soon found that from favoritism or other cause the precaution was neglected in many instances, patients commenced complaining of their physicians when their cases were reported, and the result was that many were kept secret. Besides, in many instances, families preferred to treat their own sick without the aid of physicians. And in either case when those died who had not been, according to law, reported while sick, they were not reported as having died of small-pox. To dereliction of duty on the part of health officers, in very great measure, could nearly all the

evils of this course be attributed. But a more censurable feature of the epidemic was the failure on the part of the authorities to provide at the very outset for the thorough vaccination of the entire city.

The efficiency of vaccination as a protection against small-pox, when thoroughly performed, ought to be considered as settled beyond any controversy; and revaccination is an essential element of such thoroughness. To be perfectly protective in each case vaccination ought to be repeated until it fails to form a pustule. It is to be hoped that during the absence of the disease efficient steps will be taken to prevent its return, and that we will not wait until in the midst of another epidemic before any thing is done.

I have thus hastily gone over the points that presented themselves most prominently for consideration, though this I have done rather from a sense of duty than otherwise, for the want of proper information has rendered the task any thing but a pleasant one.

The class of statistics that physicians are most interested in are such as we ourselves must collect. No doubt increasing care will mark the taking of each successive census by the government. We need statistics for the country of the class obtained at large hospitals in great cities. We need to know the duration of disease in private practice in both city and country, and a careful showing of all the influences that affect the course of disease. It is desirable that we have a rigidly-enforced registration of births and deaths. But it is useless to particularize. It is enough to say that nothing less than a thorough, comprehensive, and accurate collection of statistics will subserve the ends of either science or public polity. Besides, a people who select such men as our legislature is for the most part composed of are not yet ready to do much in the way of statistics. The good effects reacting from the habit of collecting and interpret-

ing facts of the class referred to must alone be abundantly remunerating. The practice of just observation thereby induced will give an impetus to our social development scarcely yet dreamed of.

In conclusion it may not be out of place to state that, in view of the direction and rapid strides of the present day, it is no strained conclusion that society's statistics will soon become the basis of the social conscience.

REPORT ON REGISTRATION.

BY S. A. FOSS, M. D.

Your committee deem it a work of supererogation to make an argument in favor of registration before this learned body. Every well-informed physician freely admits its value to the welfare of our people, and its necessity to the progress of medical science.

We simply remind the society that a part of the reckless, vandal legislation of 1862 was the repeal of the registration law. That it has not been re-enacted, in the judgment of your committee, is clearly and solely due to our apathy and mismanagement. Favorably situated, as we are, to obtain this law, distributed in every county and almost every voting-precinct, having the means to reach every ear in the commonwealth, we fear that in the estimation of common-sense people we have cut a sorry figure. In short, we have acted in a very puerile manner. Pretending to have great anxiety to secure a registration law, we have worked perpetually on the plan of "how not to do it." Admitting that the common people were ignorant in the matter, and asserting that the legislature was afraid to act, we have neither taken the trouble to instruct the former or assure the latter that they would be sustained if they voted for the law.

Our efforts have consisted in sending a few prominent, earnest physicians to memorialize the legislature and lobby for the law. They were but skirmishers of an attacking army. They were defeated. They have returned to us soured and full of spleen toward the obtuse and obstinate General

Assembly; telling us that in no other state are medical men held in so little esteem and their suggestions treated so contemptuously. Let us be candid. Have we not deserved this verdict? With the power to accomplish our object clearly within our own grasp, we have quietly pursued the practice of our profession, and done almost nothing but grumble when a registration law was mentioned.

Now is not this Society perfectly sure that if a party of average business-men, amounting to one twentieth of our number, had wanted a bank, railroad, or an insurance law, that they would have gotten it long ago, and made a fortune ere this time? Let us redeem ourselves. Let us refute the slander that doctors know nothing outside of their profession. We know what we have achieved in medicine; we know what we have accomplished in surgery; we know what we have done in all of the varied branches of our profession; and we do not shrink from a comparison, in learning and progress, with the medical men of any state in the Union. Numbering, by the census of 1870, twenty-four hundred and fourteen practicing physicians, intelligent as we are, holding the social and pecuniary position that we do, having access alike to the palaces of the rich and educated; to the cabins of the poor and ignorant, and even the dens of the vicious, to say nothing of the secrets of the million of which we are the tried and trusted custodians; asserting all these facts—for they are facts—and then to admit that we can not secure a registration law, is to your committee simply preposterous.

To return for a moment to an idea already advanced, we charge that the common people are ignorant of the blessings of registration; that the General Assembly have been obstinate. Granted. Whose business and duty was it and is it to instruct the people and move and guide the legislature? Clearly our own. All men of common-sense know that the honest legislator looks wistfully over his shoulder for instructions from home. The professional politician is forced to do the same else he will not be returned. Let us, like

sensible men, take advantage of this fact, and send to the next General Assembly such a petition in weight and numbers as was never before presented to that body. First of all, and above all, let us give evidence of our faith in registration by every member of this Society signing this petition before we adjourn, then secure the names of the members of all the local medical societies, and then the signatures of every physician of the whole 2,414 in the commonwealth. This done, and the legislature will begin to believe we are in earnest, and have some respect for us. But these things are not enough. Let our petition be presented to every candidate of every party before the August election, so we can vote understandingly. And finally, let each and every physician in the state carry the petition in his pocket, and devote ten minutes each day to explaining the benefits of the law to his patrons and obtaining signatures. If we only get ten names each it will make 24,140. If we secure fifty apiece—and we can easily do it—it will swell the petitioners for a registration law to the unprecedented number of 120,700. Does any member of this Society doubt that we can get that number? Does any member doubt that, armed with such a petition, we can demand that the first act of the legislature in December next shall be a registration law? They can not and dare not ignore us.

RECENT IMPROVEMENTS IN OPHTHALMIC SURGERY.

BY DUDLEY S. REYNOLDS, M. D.

STRABISMUS.

The subject of strabismus, though much written and talked about for a long time, has but recently been assigned a place among the well-understood affections of the eye. Since the laws of accommodation and refraction have been pretty definitely settled, it has been ascertained that squint is almost uniformly the result of abnormal relations between the refracting media and the retina, and that as an almost invariable rule the cause of these abnormal relations is asymmetry or faulty development of the eye-ball—*i. e.*, too short an antero-posterior diameter—causing, first, hypermetropia; second, convergence of the visual axes—convergent squint; or too great an antero-posterior diameter of the globe—causing, first, myopia; second, divergence of the visual axes, and when of long duration permanent divergent squint. Convergent squint is brought about by the powerful strain upon the accommodative apparatus in the attempt to so shorten the focal length of the crystalline lens as to unite divergent rays of light in the bacillar layer of the retina. In viewing near objects tension of the accommodation is necessarily coincident with convergence of the visual axes in persons possessing binocular vision; consequently this habitual straining of the internal recti muscles develops permanent contraction. In myopia due to congenital malformation of the eye-ball divergence of the visual

axes results from the absence of any necessity for active accommodative efforts, in consequence of which the internal recti muscles are never actively exercised, and finally, becoming atonic, they are overbalanced by the external recti, thus producing permanent divergent squint.

Convergent squint means hypermetropia with muscular contraction; divergent squint means myopia with muscular atony. Donders asserts that seventy-seven per cent. of the cases of convergent squint are due to the causes above stated, and recent observations have fully confirmed the assertion of this important fact by the great master. The probable result of an operation can be accurately determined by testing the state of the patient's vision; for example, if the squint be not due to an anomalous state of the refraction and accommodation, an operation will very probably be unsuccessful, and especially so if the squint be due to paresis. The result will be doubtful also in cases unattended with binocular vision. If, when the defective refraction be corrected by glasses, the squint disappears, or nearly so, the case may be cured without operation. In convergent squint due to paralysis of the external recti no operation should be attempted until the disease causing the squint shall have been arrested in its progress, and found irremediable as to the restoration of the functions of the palsied muscle or muscles.

Incipient convergent squint may generally be cured by neutralizing the hypermetropia with proper glasses, paralyzing the accommodation with atropia drops, and exercising the externi with prismatic glasses.

Divergent squint in ninety per cent. of the cases (Donders) results from augmented antero-posterior diameter of the eyeball—myopia—and depends upon insufficiency of the internal recti muscles. Operative interference is much more rarely required for the cure of this form of squint than the convergent. The majority perhaps of the cases seeking professional advice may be relieved by neutralizing the myopia,

occasionally exercising the interni with prisms and toning up the accommodation with a collyrium of the calabar bean.

Divergent squint due to palsy should *very rarely if ever* be operated upon. That other form—unfortunately not as rare as it should be—produced by an unskillfully-executed operation for convergent squint, may be relieved by an operation devised by Prof. C. R. Agnew. The operation consists in bringing the interni forward on the scleral surface sufficiently far to correct the divergence. To do this it is necessary at the same time to divide the tendinous attachments of the opposing muscles and secure the advanced tendons of the interni in their new situation by the aid of sutures. (See New York Medical Journal, July, 1867, p. 317.)

Before dismissing the subject of squint I desire to lay particular stress upon the fact that vision is seldom or never materially improved by operation. The loss of binocular vision is prevented if the squint be corrected in time. No operation should be attempted until after the refractive defect shall have been carefully noted and corrected, and prismatic glasses found inadequate for the correction of the squint.*

Hypermetropia unattended with squint, in cases where the refractive defect does not declare itself until adult life, determines a condition that is excessively annoying to the subject, and that until within a comparatively recent period baffled the skill of the entire medical profession. This condition is brought about by the great tension of the ciliary muscle in accommodating the eye to near objects, as in reading, sewing, or the like, which soon tires the eye, and from actual fatigue the tension of the muscle gives way, and near vision becomes not only painful but impossible. A short period of rest restores the temporary loss of the accommodative power, and with it the normal acuity of vision. Any renewal of the continued effort at near vision makes the defect painfully manifest. This affection is called *asthenopia*, and

*This applies to persons possessing binocular vision.

does not as a rule exist in any but far-sighted eyes. Where the hypermetropia is very slight asthenopia may result from spasm of the accommodation, temporarily annulling the power of distant vision, and rendering any continued effort at near vision difficult and painful. Rest soon relieves for a time this trouble also, but it is prone to return all too soon. The only permanent relief *must* come from glasses that entirely neutralize the hypermetropia, the glasses being necessary for near vision only. Some over-enthusiastic young specialists have reported cures of asthenopia from the use of atropia drops. It is almost needless to say that the atropia does no more than temporary good, just what unaided nature does with a few hours' rest.

POLYOPIA MONOCULARIS.

Polyopia due to spasm of the accommodation has long been known, especially in cases of irritation of the motor oculi and trigeminus, following injuries attended with concussion. Von Graefe reports a case resulting from an injury done the cornea by the finger-nail. (Donders, 623.) Other cases have occasionally been reported.

The fact that spasm or paralysis of the obliqui induces diplopia (McKenzie, Wells, Jones, McNamara, J. Z. Laurence) is well established; but so far as I am aware no one has ever observed uniocular polyopia dependent upon disturbance of function in the obliqui, induced by injury, except myself. (American Practitioner, vol. vii, page 140.) The subject was a lad, aged fourteen years, who had, five or six months previous to consulting me, fallen from a cart, receiving severe shock, with loss of consciousness for several hours. When he awoke his vision was very indistinct ("misty") and multiplied, which caused his father to seek my aid. He saw double with the right eye when the left was closed, and multiple with the left eye when the right was closed. With both eyes open his vision was multiple. The case puzzled me very much to account for the diplopia in one eye and

polyopia in the other. He told me that when he looked at the spire of a church two squares distant* he saw about a dozen spires, which he could not count. If he closed the left eye he could count eight; if he closed the right eye he could not see the spire. With the left eye closed a single object within twenty feet appeared double, the images diverging from the horizon upward; with the head turned upon the right shoulder, the left eye closed, the object looked at (a pencil), held upward and to the left within thirty inches, appeared single. He could not tell the exact direction of the pencil, whether vertical, horizontal, or oblique, unless he held it himself. The absence of any intra-ocular lesion, the position of the double images in the right eye, the fact that any attempt at adjustment of the left eye to any point induced pain, with astigmatism of the cornea excluded, impressed me with the notion that spasm of the superior oblique in the right eye gave rise to spasm of accommodation in the left; and the mystery was at least half solved. Being afraid to cut the superior oblique, I conceived the idea of dividing the scleral attachment of the internal rectus, except a single fasciculus at the extreme lower border. I then cut out a triangular portion of the divided tendon, so as to taper it from the undivided fasciculus backward about a quarter of an inch, so as to give this muscle no power above the transverse equatorial line of the eyeball. Muscular contraction taking place in the center of the muscle plane, this must necessarily, I thought, cause the internal rectus to become the antagonist of the superior oblique as a rotary muscle. Upon this hypothesis the operation was done experimentally. To my great surprise, and the infinite gratification of my patient and his friends, the whole difficulty was removed.

It might be well to state that prisms could not be made to improve the vision, the only effect being to double the groups of images with both eyes open. By closing either eye confusion in the longitudinal direction of the images

*About eight hundred and forty feet.

resulted from looking through a prism No. 8 with the refracting angle turned in an oblique direction, this difficulty being less in the right eye.

The operation was done in November, 1869, and there has been no return of the polyopia, though the lad has attended school most of the time since January, 1870. The result is sufficient justification for the operation, and I would not hesitate to repeat it if another case of spasm of the superior oblique, with or without the polyopia, should occur in my practice.

If diplopia result from an affection of the superior or inferior recti, there will be altitudinal separation of the images; if it be due to the external or internal recti, there will be lateral separation; and if double vision result from an affection of both, there will be both lateral and altitudinal separation of the images. But if the obliqui alone produce the diplopia, it may be uniocular, and there will be obliquity in the images, which will appear to start from very nearly a single point, and diverge either upward or downward, according as the superior or inferior oblique is affected. It is important to note whether the diplopia depends upon the presence of binocular vision; for if it be uniocular it could not possibly be due to any defect in the functions of either of the recti. Diplopia dependent upon binocular vision can always be dissipated with prismatic glasses, which is not the case with uniocular diplopia.

CONICAL CORNEA.

The practice of establishing a central or peripheral opening, repeated paracentesis, valvular incision in the apex of the cone, have each had their advocates, and gradually one by one they have passed into oblivion. Many ophthalmic surgeons have regarded conical cornea as an incurable condition. Some cases are reported as having yielded to iridectomy. But to Bader belongs the credit of introducing*

* Lancet, January 20, 1872, page 73.

an almost uniformly successful operation for the cure of this often very troublesome affection. The operation consists in the removal of the top of the cone, closing the wound with sutures, and if necessary iridectomy after the healing of the wound. Bader directs* that a small curved needle, armed with silk or silver wire, be thrust through the cornea in its horizontal diameter close to the portion to be removed. Then with a cataract knife or other similar instrument cut out an elliptical portion, including the entire thickness of the cornea. The wound is then closed by tying the suture. Mr. Bader does not say that he has tried the plan of removing the apex of the cone so as to make the opaque line correspond to the transverse meridian, which to my mind is far preferable to the vertical for obvious reasons. The result has been good in most all the cases reported. But certainly I have had less difficulty on account of inflammatory reaction, by removing the elliptical piece of cornea with long diameter horizontal, the sutures lying between the edges of the closed lids. My experience has been limited to two cases, both under twenty years of age. In neither of them was iridectomy necessary. I made the opaque line correspond to the upper half of the pupil. One of my cases read No. 3 (Snellen) at 12″ without glasses, and No. L at 16′. The other read No. 5 (Snellen) at 10″, and No. LXX at 12′ with + 30. If the opaque line be made transversely, an iridesis downward will be found preferable to iridectomy done in any direction. If the longitudinal direction of the wound be vertical, and the opaque line pass opposite the center of the pupil, it is almost impossible to get rid of the obstruction to vision. This may seem to some an unimportant matter, but in practice it makes the difference between success and failure in many cases.

The reason why removal of the apex of the cone is always necessary can readily be understood when we take into consideration the fact that at that portion the cornea is always

* *Op. cit.*

found to be abnormally thin and soft, owing to some peculiar change of structure, the exact nature of which is not yet understood.

TATTOOING CORNEAL OPACITIES.

Dr. L. Von Wecker,* of Paris, has put into execution a very ingenious little operation for removing the unsightly appearances of leucomata of the cornea. The operation consists in staining the white corneal specks with Indian ink tattooed into the corneal epithelium with a finely-pointed chisel-shaped knife, such as is used for removing foreign bodies from the cornea. In this way those ugly white and grayish-white corneal opacities are stained deeply black if situated directly in front of the pupil, and an artificial pupil made, so that no one can observe any difference in the color of different portions of the corneal surface. If the speck be situated toward the peripheral portion, the color of the ink may be suited to the color of the iris.

The operation is unattended by any violent irritation, and does not confine the patient to the house. It is generally necessary to operate at six or eight different sittings in order to complete the staining.

This operation is exceedingly popular for its cosmetic effect, as well as in many cases the decided advantage resulting to vision through an artificial pupil, on account of the fact that white opacities, and especially if they are thin, create much confusion on account of their partial translucency.

ULCERATION OF THE CORNEA.

There are many forms of corneal ulcer, and to mention all that has recently been developed respecting the causes, nature, and treatment of each of the several varieties would require so much time that I feel obliged to mention only those forms that require surgical intervention for their relief. That form of corneal ulcer so often seen in persons

* Archives of Ophthalmology and Otology, Vol. ii, No. 2, p. 224.

suffering from frequently-recurring attacks or chronic forms of malarial disease, generally producing deep fissure in the corneal substance or a ragged funnel-shaped excavation, rarely perforates, and as rarely manifests a disposition to heal under any sort of medication. They do sometimes, however, under judicious constitutional and local treatment, appear to fill up almost entirely; but soon they relapse, and are then even more intractable than before, and especially so if the subject suffer any constitutional debility. Lately iridectomy has been practiced in such cases with the most gratifying results. Paracentesis of the anterior chamber frequently repeated is often sufficient in very recent cases; but when the ulcer becomes deep nothing short of iridectomy, with a judicious course of constitutional treatment, will be found sufficient to relieve the disease, of which the ulcer is but a symptom—malnutrition. The local use of atropia drops, applied sufficiently often, and of sufficient strength to maintain full dilatation of the pupil, will be found an invaluable adjunct in the treatment of all cases of corneal ulcer.

In performing iridectomy it is important to enter the anterior chamber through the edge of the cornea and not through the scleral tissue, as it is well known that, should the wound fail to unite by first intention, the iris will at its periphery float into the scleral wound, and contract adhesions that can not be broken up; whereas, if any adhesion take place between the iris and cornea, the ciliary bodies can not become implicated, and the adhesion may, if desirable, be broken up without difficulty.

The clear phagedenic marginal ulcer should be punctured through its base, and if touched with the crayon of sulphate of copper immediately after the puncturing will heal very readily.

The various forms of strumous ulcer generally yield to the constitutional administration of corrosive chloride of mercury, and quinine, iron, etc., along with the local use of atropia drops.

The variolous ulcer always requires paracentesis through its base. Constitutional treatment in these cases seldom or never does good. It is often astonishing how rapidly this class of corneal ulcers heal after being punctured, and how very small the remaining opaque spot. Paracentesis at the periphery of the cornea, when the ulcer occupies a central position, seldom does any good, and is never curative. The practice of applying stimulants, as collyria composed of sulphate of zinc, copper, the nitrate of silver, and in fact all substances having a stimulating effect, can not be too severely condemned, as none of them can do any possible good, and they have been known in many cases to do positive harm.

IRITIS.

Iritis in all forms, no matter how induced, should be treated locally with atropia drops of sufficient strength to produce full dilatation of the pupil, beginning at the very inception of the disease if possible. This is important not only as a prophylactic against the formation of adhesions between the pupillary margin of the iris and capsule of the lens, but as a potent remedy for the relief of the pain, which is often excruciating. Atropia has, I have sometimes thought, the effect of arresting localized inflammatory action, if used before much effusion has taken place. The constitutional treatment, which is important in most all cases, according to my experience, should consist in full doses of iodide of potassium, administered at short intervals, say at least three times a day, gradually augmenting the dose until the toxic effect of the drug is produced. Then increase the interval by giving one dose per day, in order to maintain the effect until the iritis subsides. It will generally be found that the disease partly, if not wholly, subsides before the system becomes saturated with the drug. There are, of course, exceptional cases, requiring other medicines in addition to the above, on account of some constitutional or local affection that may be co-existent with the iritis; or it may be that,

owing to some peculiar idiosyncrasy forbidding the use of the iodide, we are compelled to resort to some other agent. But it should not be overlooked that the iodide of potassium is the all-powerful specific against iritis, as much so, I think, as quinine is in malarial affections. And just here I would mention that some scrofulous persons are prone to attacks of iritis every time they suffer an attack of intermittent; and while I have not found the quinine sufficient to cure the local disease, it is an almost indispensable adjunct in its treatment. I have very recently known three cases of acute iritis that were treated within the first twenty-four hours after the onset to recover in two days under the treatment first described (ten grains of the iodide in water four times a day, and atropia drops, two grains to the ounce of water, dropped into the eyes three times a day.)

In cases of rheumatic iritis an occasional dose of turpentine, a fluid drachm, combined with half an ounce of castor-oil, and fly-blisters to the temples, have proved very useful aids in the cure of the disease. I do not think that I have ever seen any permanent good result from local abstractions of blood in cases of iritis, and of late I never resort to that practice.

Mr. Gascoyne has created an impression in the minds of some medical gentlemen that iritis requires no treatment at all, the disease being, like most other localized acute inflammations, self-limited and tending naturally to recovery. This is one of the most dangerous heresies that I have ever known any one attempt to promulgate; for we all know that unless the disease be arrested it is prone to extend on into the ciliary bodies, and thence to the choroid, setting up changes that are almost necessarily fatal to vision.

SYMPATHETIC OPHTHALMIA.

Recent observations have developed the important fact that nearly all eyes lost from inflammatory changes in the uveal tract do after awhile induce sympathetic irritation,

and finally inflammation in the fellow-eye, unless the unsound eye be removed. Eyes lost from rheumatic, gouty, syphilitic, and all the various forms of traumatic inflammation are about equally dangerous if not removed before the remaining sound eye begins to exhibit signs of irritation.

It has also been found that those eyes that have been only partially destroyed from perforating ulcers of the cornea are liable to set up destructive changes in the fellow-eye. In the last number of the "Royal London Ophthalmic Hospital Reports," vol. vii, page 352, is the report of Mr. Nettleship, Curator to the Hospital Museum, of a very large number of eyes removed on account of sympathetic disease in the fellow-eye, with the clinical history of each case; which, when carefully studied, must convince any one of the fact that all unsound eyes (blind or nearly so from incurable disease) should be at once enucleated. I call attention to this subject on account of the importance of removing at once all blind eyes from persons in whom one sound eye remains, as a prophylactic measure. There are many persons now hopelessly blind in almost every community that might just as well have been spared one sound eye had the one first lost been removed in time.

If the operation be deferred until morbid changes have already been set up in the fellow-eye, we have no assurance of being able to arrest the disease, and even if we do arrest it there is little prospect of restoring the normal acuity of vision; and from a sad experience we know that relapses are prone to occur, so that enucleation before any evidences of secondary disease became manifest is the only means of absolute protection. Mr. George Lawson* says: "The importance of removing at an early period an eye which has been so injured as to be useless, and which is exciting irritation in the other, or the inflamed remnant of a lost eye which is acting in the same prejudicial manner, can not be exaggerated; for, though *in the very early stage* of sympathetic

* Diseases and Injuries of the Eye, p. 180.

ophthalmia, the removal of the cause of irritation will, and generally does, cause its subsidence. Yet when the disease has thoroughly taken hold of the sound eye even the removal of the lost one may fail to arrest its progress."

Then if the eye has been rendered useless by disease or any form of injury, attended with or followed by inflammation of any portion of the uveal tract, experience has taught that soon or late there will be a rekindling of the morbid action, which will almost certainly attack and destroy the other eye. Therefore abscission is not now nearly so often practiced as formerly. The operation of enucleation as now practiced is wonderfully benign, and if done properly does not in the least interfere with the adjustment of an artificial eye, whose mobility will be as perfect as if resting upon a shrunken globe.

There are many other recent advances in ophthalmic surgery that I perhaps ought to mention, but with a due appreciation of the value of your time must content myself with what I have already written.

REPORT ON LARYNGOSCOPY.

BY RICHARD C. BRANDEIS, M. D.

Laryngoscopy has increased with wonderful rapidity throughout the medical world, and this is undoubtedly due to its excellent aid in diagnosticating and treating diseases of the larynx and air-passages. Its diffusion is a proof of its appreciation by the profession; and I must say that it is surprising that this idea, which since the year 1804 has been repeatedly dwelt upon, has so often been lost sight of. Quite a large number of physicians and surgeons at different times have investigated the possibility of bringing the living larynx within the field of vision. The means employed for this purpose were essentially the same as those which are now in daily use. In spite of this we have derived no benefit from these researches.

It would carry me beyond my limits were I to enter into the details of these experiments, and you must be satisfied if I only mention those pioneers in the art who first paid attention to this subject. I name them in chronological order. They are Bozzini in 1804, Senn in 1827, Babington in 1829, Selligue in 1833–38, Bennati in 1834, Baumés in 1836–38, Liston in 1840, Warder in 1844, Avery, and last, but not least, the celebrated Seignior Manuel Garcia, who experimented in 1855.

Each of these succeeded in obtaining views of parts or of the entire larynx by means of divers laryngoscopes; but the difficulties encountered must have been so manifold that

they all gave up the attempt, nor did they again undertake any further investigations or induce others to do so.

The marvelous and enduring successes attending the art of laryngoscopy only date as far back as the time of Tuerck and Czermak, who first published their success in 1858, only fifteen years ago.

In the winter of 1857 Tuerck began his researches in the wards of the General Hospital in Vienna. These were attended from the very first with success, for he was able to distinguish the larynx by means of sunlight in the majority of cases. Tuerck devoted more time, perseverance, and ingenuity to his experiments than did his predecessors, so that he succeeded in seeing the larynx of a great number of patients in which others had failed. As a result of these investigations he was enabled to give such instruction which might enable all others to attain the like results.

Czermak, who had heard of Tuerck's successes, borrowed his mirrors and also made experiments, as he said, not so much for practical but more for physiological purposes. During his experiments the importance and magnificence of this diagnostic medium dawned upon him, and imbued by this he exerted himself to lay his results before the world. He chose the best means of doing this by traveling from place to place and demonstrating this process wherever he found appreciative listeners, which occurred in all the university towns of Germany, England, and France.

The dispute as to priority which arose between Czermak and Tuerck interested the medical public but little. After a dispassionate investigation no question as to the priority can be mooted. Instead of this, each and every one who has contributed any thing to the perfection of this art is entitled to undoubted praise.

Tuerck's investigations, which were first published in the proceedings of the Medical Society of Vienna, might have met with a fate similar to that which has encountered so many medical discoveries, in lying buried on the shelves for

years to come ere a disciple appears who gives them to the world. Czermak succeeded in introducing this process by means of his enthusiasm and perseverance, and to this do we owe the welcome with which this discovery was received by the profession.

The purpose of a laryngoscopic investigation is the examination of the larynx and the pathological changes which it may have undergone. This aim of laryngoscopy can be reached with positive certainty. If the stethoscope hammer and plexiometer have been of service in the diagnostication of diseases of the heart and lungs, laryngoscopy has been no less successful in its way. It has been asserted that it only serves as a means of diagnosis. But experience has taught us that in the interval of fifteen years the *technique* of laryngoscopy and laryngo-surgery has developed to such perfection that there is hardly a disease of the larynx which can not be recognized and generally relieved. The means employed to attain this end in view were very simple—*i. e.*, only a good light and a mirror which reflects a true image of the parts to be examined.

The first laryngoscope which came in vogue was that of Tuerck. It was a glass mirror attached to a tin frame and frame with a wooden handle. The form of this mirror was partly round and partly oblong. After this Czermak's mirror came in use. This was also of glass, but square. These patterns were not satisfactory, however, and oval ones were introduced. Later on, mirrors having the form of the pharynx—that is, parabolic—were made. At the same time different materials, such as glass, polished tin, silver, and steel, were employed. The first, being the most practical, have been retained, while the others have fallen into disuse. The shape of the mirrors gave rise to many an angry dispute. But the mirror which is now used is round, as is this which I hold in my hand, because it can be used in every instance. A round mirror which is attached to its stem at an angle of 120° may be used in every attempt at

laryngo or rhinoscopy. A cardinal rule is this, to have a mirror which gives rise to the least irritation and is best adapted to the configuration of the pharynx. The mirror ought to be placed on the soft palate and uvula, so as to push them back to the posterior wall of the pharynx. The size of the mirror to be employed varies as the size of the fauces, and should be in inverse ratio to the sensitiveness of the patient.

The principal advantage of the round mirror is this, that it can be held in either hand with equal advantage, while those having other shapes must be specially adapted to the right and left sides.

The position of the mirror should be such that the handle should rest in the angle of the mouth on the same side as the hand with which we hold it. No general rule can be given for the mode of introducing the mirror. The glass should be placed in position at the same moment that the sound of *a* is uttered and the uvula is thrown upward, and it should be placed over it in such a manner that the surface of the mirror is parallel with the base of the tongue, and that the light which is thrown on it from without be reflected on the larynx below. If this position be assumed, the mere act of phonation, which raises the epiglottis, will enable us to look down into the glottis. The mirror should always be clean and bright, and should be warmed before use, so that the vapors of the expired air be not condensed on it. Care must be taken that the mirror be not too warm, else we may burn the parts with which it comes in contact. We would now be able to proceed with our investigations if we had a reliable source of light. Daylight will only suffice in those rare cases where we have a very large pharyngeal cavity, and if the sensitiveness of the patient be sufficiently diminished to allow the introduction of a very large laryngoscope. It is therefore desirable to have either a good source of artificial or sunlight. The latter may be employed in two ways—*i. e.*, either allowing it to fall on the

laryngoscope directly, or it may be caught up and reflected by a plane mirror. This may best be done by using a plane reflector attached to a stand, which enables us to move it in every direction. We will thus be able to examine the larynx in every instance. Many use concave mirrors; but these are not desirable, as the concentration of the sun's rays is apt to burn the sensitive mucous membrane pretty severely.

The plane mirror is therefore to be recommended in this mode of examination. If the trachea is to be examined, the light must be reflected from below upward. The patient should either stand while we sit before him, or sit while we kneel. The patient should lean forward or put out his tongue. The laryngoscope is held in a horizontal position against the soft palate. The rays from below strike the horizontal mirror, and reach the larynx and trachea at an acute angle. The larynx is thus brought forward, while the trachea is thrown further back. An angle of light is thus formed, one side being the ascending fasciculus arising from the plane mirror, the other the descending bundles thrown down from the laryngoscope on to the larynx and trachea. We are thus enabled to see the entire trachea, its bifurcation, and sometimes even the right bronchus.

As the light of the sun is not always available, the use of artificial light is more common. In order to concentrate these rays a concave mirror, such as this, is generally employed. Some use a combination of lenses, arranged in the manner of Tobald's apparatus. The great objection to this apparatus is this, that the slightest movement of the patient will disturb the focus and thus interrupt our observations.

The advantages of the concave mirror are manifold—their portability, the facility with which they are adjusted, their comparative cheapness, and last, but not least, the pleasant and clear light which they reflect into the pharynx. This mirror is attached to a band—which is strapped around the head—by means of a ball and socket-joint, which allows it to be moved in every direction. Without touching upon

the different ways in which this mirror is used by different schools, I will describe that which I consider the best manner. The reflector, being securely attached to the forehead, is carried in front of the right eye, so that the perforation is before the pupil. The left eye is then closed, and the reflection thrown on the laryngoscope, so that we are in the focal tract. The right eye is now opened, and thus the entire pharynx, the larynx with its appendages, etc., is brought into view. The diameter of this mirror is about $3\frac{1}{2}''$, the focal distance $9''$.

Oil, petroleum, or gas-lights are best adapted for artificial illumination, it being premised, however, that argand or circular burners should always be employed. Fan-lights are practically useless, for they neither afford a steady nor a white light, such as is absolutely necessary in minute examinations. Another advantage attending the use of a concave mirror is this, that we are thereby enabled to examine a patient in the prone position, which can not be done with the more elaborate apparatuses.

The patient should occupy such a position that the light be thrown directly on the uvula. To assist in this he must stretch out his tongue; and in order to retain it in this position he should envelop the tip with a linen rag, and hold it with his thumb and two first fingers. I make it a rule to hold the patient's tongue myself, as I can steady his head more effectually in this way. If it should be necessary to employ instruments, I let the patient take charge of the tongue, as my two hands are then in active demand.

The inability of the patient to flatten his tongue is often one of the greatest obstacles to an examination. I have found it best to instruct them to whisper the diphthong *a-e;* and then it is found that the involuntary contraction is overcome, and we are enabled to introduce the laryngoscope. The patient will also often interrupt his respiration. He should be instructed to inspire regularly, and in expiration intonate the vowels *a* or *e* Some patients are also very ticklish, and

can not bear the presence of any foreign body in their buccal or pharyngeal cavities. The sensitive parts are either the base of the tongue, the palatine arch, or the uvula.

If this *locus minores resistentia* is positively determined, we must endeavor to avoid it and literally suspend our laryngoscope in mid-air. In no case should the mirror be pressed on to the soft palate; this should only be pushed back sufficiently to prevent its falling over the glass, and should never rest on the posterior wall of the pharynx, else retching and vomiturition ensue. The handle of the mirror should be grasped in the same manner in which we hold a pen. We thereby gain perfect control over it, and can turn the glass into any position which may be necessary. The little finger should rest on the lower jaw of the patient, and thus a perfect control is gained over patient and instrument.

These preliminaries being attended to, and the laryngoscope in its proper position, so that a strong light falls on it, and we look at it accurately, we will be able to distinguish the image of the larynx. We will not be able to see the entire larynx in every instance, for generally we can only distinguish a part of it, and that is the posterior half or the arytenoid cartilages and epiglottis, and in the most fortunate instances the posterior third of the true vocal chords. In order to examine the entire larynx it will have to change its position several times. This is best done by letting the patient phonate occasionally. In order to view the vocal chords in their entire length it will be best to let the patient intonate the high *a*. If this does not raise the epiglottis sufficiently, he must intonate the diphthong *æ* with a prolonged expiration. In order to say *e* it is absolutely necessary to press the base of the tongue on the palate, and the patient will say that he can not intonate *e*. The answer to this is that it is not actually necessary to intonate, but the mere intention will suffice. We must insist upon it that he say *a* in a falsetto voice, or that he utter *æ*. During the intention of uttering *e* the epiglottis is raised upright and

inclined forward, and we are now able to see the entire length and breadth of the larynx. If the patient take a deep inspiration after he has intonated *æ*, the interior of the larynx and trachea can be seen without difficulty.

Numerous instruments have been devised in order to attain this purpose—that is, to raise the epiglottis in a vertical position. Tuerck described an instrument with which the epiglottis could be caught up by means of a needle and thread passed through the cartilage, and traction employed. An acute inflammation generally sets in after this procedure, and I have known instances in which *œdema glottidis* ensued, with more or less unpleasant results. We now only use a curved sound for this purpose, and find that we can thus raise the epiglottis with more ease than by means of any other instrument. I prefer an English catheter stiffened by the introduction of a stout mandrin.

The introduction of instruments is rarely or never prevented by an abnormal position of the epiglottis; for every instrument which we employ in laryngoscopy has the same curve as the epiglottic sound, and can raise the cartilage as well as any apparatus especially adapted for this purpose.

The true vocal chords are the only factors concerned in phonation; and if the tone *a* is uttered, we can see how these chords, which during silence have been in apposition with the lateral walls of the larynx, immediately spring forward and approach each other in the mesial line. They remain in this position during phonation, to return to their normal position at the next inspiration. In order to retain the vocal chords in the median line for some length of time it will be necessary to make a lengthened attempt at phonation, which can be done by letting the patient sing. In order to examine the lesser movements of the chords it is best to let the patient sing in different modulations. We then notice the following: the vibrations throughout the entire length are caused by higher and lower phonation; that is, they serve the purpose of producing higher or lower tones. The

phonetic vibrations which are produced during the intonation of a bass note are not as frequent but that they may be distinguished; but during the intonation of a falsetto tone a tension may be noticed, and the vibrations follow each other with such rapidity that they can not be distinguished. In bass tones the false vocal chords do not move in the least; they remain in apposition with the lateral walls, so that the ventricle of Morgagni can be distinguished during phonation. The intonation for the production of a bass tone requires the vibrations of a broad lamella; whereas a falsetto is produced by the vibrations of a narrow strip of the vocal chords near their free borders. In order to produce this the false vocal chords press down upon the true ones, leaving only a narrow strip exposed, and thus the free border only is able to vibrate. This pressure of the false chords during the emission of falsetto tones illustrates what assistance the larynx employs during disease of the true chords. At the same time that the chords refuse to act, and the closure of the glottis is impossible, the vicarious actions of the false chords come into play. The false vocal chords can close the glottis opening perfectly well, and as soon as they have taken up this rôle they are sufficiently able to prevent the entrance of any foreign bodies into the larynx or windpipe. During phonation the false chords are tone-producers only to such extent as their volume and thickness permit it; it is not possible to emit high notes, for the vibrating lamella is much thicker than in the true chords.

The *ventriculus* of Morgagni assists the true chords in their production of fine, minute, and rapid vibrations, for without them the production of the narrow strip would draw the entire laryngeal mucous membrane with it, as is the case with the sheep, which has no ventricles. The vocals have a pearly-white and oleaginous appearance throughout their entire extent, and have only a few muciparous glands when compared to the mucous membrane. It is covered by a thin layer of mucus which is secreted by the ventricles.

THERAPEUTICS OF ELECTRICITY.

TRANSLATED FROM THE VIENNA MEDIKALISCHE PRESSE

BY B. TAUBER, M. D.

A difficulty which we encounter, and which is likely to be more embarrassing in the future, is the wide-spread belief that "electricity is, so to speak, electricity," and that it matters little which mode of this force we employ, whether induction electricity or faradism. After the acute symptoms have subsided, or in cases of slowly developing chronic diseases of the nerve-centres, galvanism and faradism may be employed with advantage.

In no conditions is the galvanic current more effective for good than in certain disorders of the cerebral circulation, with the general symptoms—vertigo, headache, loss of memory, nausea, etc. It is important to enter upon the treatment before the centers of softening have been established or excavation has occurred. A current from six cups of Siemens and Halske, with a needle deflection of ten degrees, should be passed transversely in both directions through the head, and the superior ganglion of the cervical sympathetic on both sides also included in the circuit. The sitting may last five to seven minutes, and the application should end when giddiness supervenes. This application will give remarkable relief to some of the most distressing symptoms accompanying intra-cranial lesions.

In cases of hemicrania and tic-doloureaux, dependent on incurable organic disease of the brain, the constant current

affords a marked degree of temporary relief. Galvanism is curative in cases of simple hemicrania not due to malarial cachexy. Sick-headache, or neuralgia of the "fifth nerve," is almost always cured by mild currents, not only during the attacks, but also in the intervals.

Galvanism is the most effective remedy for sciatica, and the average treatment for the same will be from eight to twelve days.

In cases of spinal irritation, ovarian and uterine neuralgia, hysterical migraine, and enteralgia the effects of galvanism are great. In case of young girls the positive pole of ten or twenty elements should be applied to the points of spinal tenderness, and the negative carried downward over the lower spinal region, and over the iliac and hypogastric regions. In case of the married an insulated electrode may be introduced, connected with the negative side of the battery, and the positive be applied to the spine or abdomen.

Most excellent results are sometimes obtained from the use of galvanism to allay spasm, as in asthma. In treating it a downward current through the pneumogastric is employed—the positive pole in the auriculo-maxillary fossa, and the negative in the epigastrium.

Some cases of intestinal spasm are relieved in a marked manner by the constant currents.

In facial paralysis, in which the electro-contractility is diminished or destroyed, in "writers' cramp," and in "lead paralysis," the nutrition and the electro-contractility of the muscles may be so far restored by galvanism that a faradic current will complete the cure.

The value of electricity in uterine disease is very important. In ovarian and uterine neuralgia, irritable uterus, and vaginismus a descending current gives great relief, and is of itself frequently curative. In chronic metritis, with hyperplasia of the uterine tissue, it will procure relief for a time. In congestion of the uterus with descent an interrupted galvanic current, or a rapidly interrupted induction

current, affords decided relief. Amenorrhœa of anemia, or the result of defective involution, is generally cured by a strong induction current, or by the interrupted galvanic current passed through the pelvis. In single young ladies it may suffice to place one pole over the spine and the other over the pubic region. The result is better when an insulated vaginal electrode is used.

In genito-urinary diseases the good effects of galvanic currents are evident in some painful affections of the bladder. Galvanism is more useful, and especially in atonic states of the sexual organs, in the relaxed condition produced by spermatorrhœa. It relieves the hyperæsthesia of the prostatic portion of the urethra and increases the power of the erections. A current from six to eight elements of Siemens and Halske is sufficient for this purpose.

As a rule, galvanism is employed to improve the nutrition of the nerve-centers, and faradism to improve the nutrition and to restore the impaired contractility of the muscles.

You will perceive that I regard it as a remedy having its distinctive place as any other therapeutic agent, and a power which we may use or abuse in the treatment of disease.

RESPONSE TO TOAST "LAW AND MEDICINE."

BY B. G. BIDWELL, ESQ.

Mr. President: I have somewhere seen the idea expressed that the lawyer's profession depends on the moral depravity of man, the physician's on his physical infirmities. This is one of those thoughts which are too often born and thrown upon the world without *labor-pains.* The harmony of the universe is its obedience to a fixed and changeless divine law. From the merely vitalized mound to the highest intelligences in heaven all is harmony, all order. The statutes regulating trade and commerce, as well as others I might mention, are necessities of man's political being; and no moral tone however exalted, no civilization however advanced, can possibly dispense with the necessity for them. Pain and disease are but the means ordained of God for the enforcement of his decree, "the day thou eatest thereof thou shalt surely die," and are but conditions of man's existence, without which he would not be *man*, but another and a different being. Through the long weary ages the sons of professional toil, worshiping no imaginary deity, but bowing at nature's altar, have sought to discover and declare the laws of nature's God. The stones on which Moses inscribed the commands of God are not the only tablets on which Jehovah has written the laws which control man's destiny. When gazing on the yet mysterious characters which his finger has traced on the earth, and in the systems that circle and burn in the cerulean vault of the

upper deep, the poet-king exclaims, "What is man that thou art mindful of him?"

For the efforts and progress you have made in your noble profession you deserve the gratitude and "God bless you" of mankind. Your fame does not rest on the crushed hopes of your fellow-men, nor on the ruins of once splendid empires, but was all achieved in the interests of humanity. The last note in Niagara's hymn of praise to Nature's God will one day be sounded; the last bead in Time's rosary counted; old Ocean's restless moan shall be hushed into awful silence; the sun himself shall float a charred and blackened mass in the heavens; but "beyond the storms that wreck, the sins that damn," your deeds will be named among the splendors of the eternal world.

I have thought that your efforts in behalf of suffering man would be more justly appreciated were your profession better understood. The man who knows something of anatomy, physiology, and pathology can thank God with a deeper sense of gratitude for health or convalescence than he who knows nothing of them.

I confess with regret that law has compelled you to pursue one of the most important of your professional studies in secret. An uneducated public opinion has placed the ignorant, pretentious quack in the path of your progress; men as ignorant of the fundamental principles which underlie your profession as the islander of Torris Strait, who prove themselves false to every noble or virtuous sentiment, and are ready to compound honor for the mere boon of existence, are too often encouraged by a liberal patronage. In the far-off past, beyond the countless generations, amid the obscurities of antiquity, the star of your healing art arose above the world. That star has become a sun which flings its splendors over the woes of life and the sorrows of time. It should be your pride and pleasure to preserve the names and deeds of the old priests of your profession, who labored as pioneers in the wilderness of science, encouraged by an

undoubting faith, cheered by hope, and guided by an occasional gleam of light from the far-off palace of truth. They sighed for the great Sabbath-day of science, with all of its revealed beauties, whose morning is now breaking on the world. Study their works with the same spirit with which the humble Christian reads the "strange story of man's creation, his fall, and redemption." In their names, in the name of God and suffering humanity, let me beg you to-night to kneel around the altar of honorable medicine, kindle anew in the heart's golden censer the flame of devotion, and with souls pure as a vestals swear to drive the piratical craft of quackery from the high seas of science. That gibbering idiots spit the slime of detraction at you, and for a time deface the purity of your noblest creations, is no cause of discouragement. A doubting rabble, who knew not what they did, cursed, reviled, and spit upon the Redeemer of the world. Heed but the voice of duty, which is the voice of God calling to you from the very heavens; discard the falsities that starve the soul and feed the heart on food fit only for swine; and while conscience sings her peaceful song on the battle-fields of life you will walk like professional Meshachs through the flames unhurt. Let your watchword be the command of God to Israel's leader in the desert, "Speak to the children of Israel that they *go forward*," until nature's problems are all solved, and the light of science reveals the foot-prints of the Creator in all of his mysterious works. Then will man's mind no longer struggle in helpless weakness; but as Abraham saw his God, so man shall see the truth, "and wondering fall upon his knees."

Borne on the tide of feeling, I have forgotten to properly illustrate the sentiment to which I should have responded. In conclusion, gentlemen, let me express the hope that after "life's long storm of trouble and of tears" is over you may, in the language of the monarch of his race, cross over the river and rest under the shade of the trees.

MEMOIRS.

BY LUNSFORD P. YANDELL, M. D.

The committee appointed at the last meeting of the Society to prepare memoirs of Dr. J. T. Bradford and Dr. Hugh Rodman beg leave to report the following sketches.

JOSEPH TAYLOR BRADFORD.

Joseph Taylor Bradford, whose name is honorably associated with one of the greatest operations in surgery, was born of highly respectable parents in Bracken County, Ky., on the 9th day of December, 1818. His father, William Bradford, removed from Virginia to Kentucky in the year 1790. The maiden name of his mother was Elizabeth Johnson. Joseph was the seventh son of his parents, and was in the habit of relating that he was descended, on either his father or mother's side, of the seventh son for three generations in succession. His early education was carefully directed. In Augusta College he enjoyed all the advantages for perfecting himself in a course of classical and scientific studies. He studied medicine in the office of his brother, Dr. J. J. Bradford, and took his degree of Doctor of Medicine at Transylvania University in 1839, where his brother before him had been graduated with honor.

From the beginning of his pupilage in medicine his thoughts were turned toward surgery as the branch of the profession in which he was ambitious of winning distinction.

The teachings of the great surgeon of Transylvania, Dr. B. W. Dudley, were well calculated to inspire his pupils with confidence, and certainly had the effect of inciting young Bradford to great attempts. Soon after taking his degree he had the boldness to undertake an operation which not a quarter of a century before was regarded as unjustifiable by the surgeons. One of the first cases presented to him after he engaged in practice was a case of ovarian tumor, and he at once resolved to extirpate it; and he executed the operation with perfect success. Ovariotomy was then by no means the familiar operation that it has come to be since that day; and the fame of Bradford spread far and attracted unusual attention to the young surgeon. The result was that in a little while other cases of ovarian disease were brought to him, upon which it was his good fortune still to operate with satisfactory results. And it was not long before he became the foremost surgeon of Kentucky, and of all the West, in that affection. Nor is it too much to say that at the time of his death he stood first among surgeons every where—in Europe and in our own country—as an ovariotomist. Not that he had done the operation oftener than any other surgeon. Such is not the fact. It has been performed much oftener by Atlee, Wells, Dunlap, and others; but by none with the measure of success that crowned his operations. In the hands of the surgeons just mentioned the recoveries were respectively seventy-one, seventy-three, and eighty per cent. With Bradford the cases in which he operated successfully amounted to ninety per cent.

But it was not alone in this operation that Dr. Bradford proved himself to be a surgeon of the highest order. In whatever cases he was called to operate he exhibited the same coolness and dexterity, the same fruitfulness in resources, and the same thorough knowledge of his art. It is understood that he meditated a work on operative surgery; but he was not permitted to carry out his purpose. The reports of his operations which he published to the world prove him to

have been a clear, vigorous writer, who might have given to the profession a work on surgery of uncommon value.

To the learning and skill which Dr. Bradford displayed in his profession he added the social virtues that give the highest luster to a professional life. He was not more admired for his talents and learning than he was beloved on account of the kindliness of his feelings and the generosity of his temper. In manners he was dignified, urbane, cordial, and gentle. Of an imposing presence, he was a man to attract notice and command respect in any circle; and his warm feelings, varied attainments, and social nature made him one of the most charming of companions. He died in the prime of professional life, on the 31st of December, 1871, in the fifty-fourth year of his age. The disease which terminated his life of distinguished usefulness was abscess of the liver. The last occasion which he ever appeared publicly before the profession was in April, a few months before he died, at a meeting of the state medical societies of Ohio and Kentucky, at Cincinnati and Covington, when the physicians of the two states interchanged hospitalities across the river that divides these states. Those who were present at those meetings will not soon forget his manly form which made him conspicuous in the great assemblies, nor that courteous bearing which conciliated the regard of all who met him. Dr. Bradford's name will remain long with writers and students of surgery as one who has contributed to the fame of his country and of his profession.

HUGH RODMAN.

Hugh Rodman was born in Newcastle, Ky., on the 4th of June, 1818. It was his misfortune to lose his father when young, and it became necessary in consequence of that loss for him to work for the support of his widowed mother and younger brothers; but he found leisure notwithstanding to improve his mind by study, and when he entered upon the study of his profession was a good English scholar. For a

number of years he worked at the trade of cabinet-maker, practicing such economy all the time that, besides aiding in the maintenance of the family, he acquired the means for defraying his expenses at a medical school. He attended his first course of medical lectures in the Medical Institute (now the University) of Louisville, and was graduated in the spring of 1841. As a student his deportment was such as to command the respect of students and professors. Of singularly commanding person and engaging mien, he was at once remarked as a man possessed of no ordinary gifts. His head, his features, the sedateness and dignity of his manner, gave evidence of a high intellect and true refinement of nature. The most careless observer could easily see that he was destined to make his mark in the world.

Dr. Rodman settled first in Lagrange, where his superior qualifications were soon recognized, and he continued to practice at that place until 1850, when he removed to Frankfort. Here, at the capital of the state, with its first citizens for his associates, he was *primus inter pares*. He had so carefully economized his leisure hours that after he grew up to manhood he made himself a good classical scholar, and continued to enrich his mind with general knowledge in the midst of an absorbing practice. Few men have risen at the same age to greater popularity in our profession. At the time of his death he was looked upon as one of the first practitioners in Kentucky.

He was a man of robust frame and sound constitution, and had the promise of a long life. His death was due to an accident. On the morning of February 3, 1871, he left home to visit Newcastle. After leaving the train at Eminence, he set out in a buggy for that place, and in attempting to pass the stage-coach on the way was thrown violently from the buggy to the ground. In the fall his clavicle was fractured, and he received besides internal injuries, from the effects of which he died two days afterward. His remains were taken back to Frankfort and deposited in the beautiful

cemetery there overlooking the Kentucky River. The Court of Appeals and both houses of the legislature, then in session, adjourned to attend his funeral. At the request of the mayor of the city all business-houses and all the city offices were closed during the funeral obsequies.

Dr. Rodman's influence was felt for good in all the walks and relations of life. In the church, in the social circle, in all movements looking to the benefit of society, as well as in his profession, he bore a prominent part. He was an influential member of the Presbyterian Church at Frankfort, in which at the time of his death he was a ruling elder. His life bore testimony to the sincerity of his Christian profession.

LIST OF MEMBERS.

* Dead. † Removed from the State.

ALLEN, A. S., Lexington.
ATCHINSON, W. A., Bowling Green.
ABEL, S. B., Harrodsburg.
ATKINS, W. L., Fayette County.
ALCORN, EDWARD, Hustonville.
ANDERSON, N. B., Louisville.
ANDERSON, T., Louisville.
ALEXANDER, C. H., Louisville.
ANDERSON, W. H., Louisville.
ANDERSON, JNO. T., Fulton.
BURDETT, S. L., Lancaster.
BULLITT, HENRY M., Louisville.
BROWN, E. O., Louisville.
BRANDEIS, S., Louisville.
BAILEY, J. L., not known.
BUCKNER, G. D., Lexington.
BEELER, G., Clinton.
BURCH, J. D.,† not known.
BAYLESS, G. W., Louisville.
BRUCE, J. M., Lexington.
BRUCE, CHARLES D., not known.
BROADWELL, ——, not known.
BROWN, W. A., Parkersville, Boyle Co.
BURKHEAD, J. F., Shepardsville.
BEALE, J. A., not known.
BOYD, ——, Hopkinsville.
BLAIR, ——, Hopkinsville.
BARNES, H. F., Louisville.
BECKER, C., Louisville.
BEARD, W. F., Christiansburg,
BAILY, J. S., Stanford.
BLAIR, J. H., not known.
BAGGOTT, J. W., Louisville.
BRYANT, G. S., Lexington.
BLACK, E. H., Frankfort.
BROWN, S. W., Mt. Vernon.
BELL, T. S., Louisville.
BRIGHT, J. W., Eminence.
BENSON, J. W., Chicago, Ill.
BRYAN, W. R., Franklin.
BUSH, J. M., Lexington.
BOHON, J. T., Harrodsburg.
BODINE, J. M., Louisville.
BRADY, J. A., Louisville.
BROWN, H., Hustonsville.
BARCLEY, J., Leesburg.
BLACKBURN, C. B., Louisville.
BYRNE, W. J., Russellville.
BAKER, J., Shelbyville.
BRANDEIS, R. C., Louisville.
BECKER, J. W., Paducah.
CHEW, W. R., not known.
CHENOWETH, H., St. Matthew's P. O.
CONWAY, G. W., not known.
CARTER, J. C., Versailles.
COOK, G. J., Louisville.
COOMBS, S. W., Bowling Green.
CRAIG, S. P., Stanford.
CONERAY, W. B., Frankfort.
CHAMBERS, W. M.*
CUMMINS, D., Louisville.
COLESCOTT, THOS. W., Louisville.
CARTER, D. D., Versailles.
CHIPLEY, W. S., Lexington.
CLEMENS, J. M., Louisville.
CALVERT, G. B., Perryville, Boyle Co.
CALDWELL, W. B., Louisville.
CROMWELL, N. B., not known.
COOK, J. L., Henderson.
CLEAVER, W. W., Lebanon.
COWAN, G., Danville.
COWLING, R O., Louisville.
CHENAULT, R. C., Richmond.
CHAMBERS, J. M., Independence.
CHILD, DUFF, Louisville.
CHRIST, H. H., not known.
CRAWFORD, A., Bardstown.
CARR, J. A., Princeton.
DUDLEY, D., Lexington.
DURRETT, R., Louisville.
DAILY, W. E., Stanford.
DAVIS, W. R., Lexington.
DRANE, E. C.*
DRANE, J. S.*
DESHA, J. R., Lexington.
DILLARD, J., not known.
DUDLEY, T. P., Lexington.
DRAKE, R. P., not known.
DOUGHERTY, W. H., Georgetown.
DUNLAP, R., Danville.
DITZLER, ——, Rockfield.
DRURY, A. G., Covington.
DUN, DOLPHUS, Boonville.
DISMUKES, J. L., Mayfield.
EVANS, E., not known.
EVANS, W. D., Harrodsburg.
EWING, U. E., Louisville.
EMMERT, J. W., not known.
ELLIOTT, B. F., Georgetown.
ERWIN, G. T., Danville.
EDELEN, J. B., Louisville.
FREEMAN, D. L., Floydsburg.
FRAZEE, L. J., Louisville.
FOX, S. J., Salina, Kansas.

FORBE, E. D., Louisville.
FRY, CARY H.*
FORRESTER, W., Louisville.
FRANK, W., not known.
FOSS, S. A., Laconia, Jefferson County.
FOSTER, J. H., Lexington.
FAIRLEIGH, R. M., Hopkinsville.
GROSS, S. D., Philadelphia, Pa.
GALT, W. H., Louisville.
GAILLARD, E. S., Louisville.
GRIFFITHS, G. W., Louisville.
GREEN, J. O., Louisville.
GRIMES, E. D., Athens.
GREEN, BEEL, not known.
GRIFFIN, H., Louisville.
GREEN, F. M., not known.
GIBNEY, R. A., Lexington.
GORDON, J., Louisville.
GRIFFITHS, T. J., Louisville.
GOODMAN, JOHN, Louisville.
GOLDSMITH, W. W., Louisville.
GALE, R. H., New Liberty.
GARVIN, S. H., Louisville.
GAINES, R. W., Hopkinsville.
HEWETT, R. C., Louisville.
HUNDLEY, W. A., Louisville.
HOLLOWAY, J. M., Louisville.
HALL, L. C., Newton.
HARLAN, W. B., Danville.
HUNTER, S. V., not known.
HOLLAND, R. C., Louisville.
HENDERSON, J. A., Louisville.
HALE, J., Owensboro.
HUNN, G., Hustonsville.
HOPSON, H., Paris.
HUMPHREYS, W. T., Louisville.
HOBBS, N., Mt. Washington.
HUNTER, S., Covington.
HALL, J. R., Georgetown.
HOLLAND, J. W., Louisville.
HATCHER, W. E., Richelieu.
HELM, W. D., Bowling Green.
HENDRICKS, S. G., Rochester.
HART, H. C., Winchester.
HATCHETT, J. G., Frankfort.
HUFF, W. A., Louisville.
IRVIN, J. T., not known.
IRELAND, J. A., Louisville.
ISHAM, R. H., Louisville.
JACKSON, J. D., Danville.
JESSUP, D. H., Covington.
JOHNSTON, D., Westport.
KYLE, THOMAS, Harrodsburg.
KASTENBINE, L. D., Louisville.
KALFUS, H. F., Louisville.
KIRKPATRICK, ——, not known.
KING, M. W., Bryantsville.
KEARNS, C., Covington.
KELLER, J. M., Louisville.
KLARENAAR, C. H., Covington.
KNAPP, J., Louisville.
KELLY, C. W., Louisville.
LEWIS, T. M., Lincoln County.
LETCHER, J. P., Lexington.
LEBER, F. C., Louisville.
LUTEN, S. W., Moscow.
LLOYD, H. C., Louisville.
LEWIS, N. B., Carrollton.
LEWIS, WALDO, not known.
LEACHMAN, W. T., Louisville.
LOWERY, JAMES, Shelbyville.
LOGAN, P. W., Stanford.
LAYTON, T. K., Versailles.
LEWIS, T. M., Stanford.
LAVIELLE, I. B., Louisville.
LEWIS, J. F., Carrollton.
LEWIS, J. A., Frankfort.
LAYTON, W. M., Lexington.
LINTHICUM, C., Henderson.
LARRABEE, J. A., Louisville.
LONG, J. N., Newport.
LESLIE, J. H., Louisville.
LOWRY, H. M., Shelbyville.
LUTEN, J. R., Wesley.
LOVELACE, L. M., Milburn.
LOGAN, R. F., Shelbyville.
METCALF, J. C., Louisville.
MATTINGLY, C. P., Bardstown.
MILLS, S. B., Louisville.
MILLER, H., Louisville.
MERRIWETHER, H. C., Louisville.
MOOREMAN, J. W., Sacramento.
MCGREGOR, T. A., Louisville.
MOORE, THOMAS J., not known.
MONROE, B., not known.
MCELROY, J. F., Lebanon.
MCBURNIE, W. S., Louisville.
MCNAIRY, H. F., Princeton.
MCKEE, A. R., Danville.
MCFARLAND, G. C., not known.
MOORE, B. J., St. Mary's, Marion Co.
MANN, CHAS., Nicholasville,
MONTMOLLIN, J. M., Ashland.
MCLEOD, G. W., Houston, Bo'bon Co.
MYER, J. M., Danville.
MARTIN, W. U., Lexington.
MCROBERTS, G., Stanford.
MOOREMAN, F. H., Covington.
MOON, B. J., St. Mary's.
MCGOODWIN, P. B., Princeton.
MCCOY, P. Y., Columbus.
MCDOWELL, HARVEY, Cynthiana.
MCCLELLAN, E., U. S. A., Lebanon.
MAXWELL, D. A., Paducah.
MCNARY, T. L., Princeton.
NEWLAND, O., Hopkinsville.
NEWKIRK, J. Y., Bedford.
O'NEAL, W. R., Verona.
OWEN, W. T., Louisville.
OWEN, L. F., Jeffersontown.
OFFUTT, J. S., Georgetown.
ORENDOFF, ——, Louisville.

OCTERLONY, J. A., Louisville.
PIRTLE, C.*
PARSONS, CHARLES, Louisville.
PRICE, A. D., Harrodsburg.
PERKINS, G., Somerset.
PORTER, L. C., Bowling Green.
PARKER, J. W. F., Somerset.
POYNTER, M. E., Midway.
POPE, W. L., not known.
PHYTHIAN, W. L., Frankfort.
PETER, R., Lexington.
PORTER, D. N., Eminence.
PENNY, ALEX., Egg's Point, Miss.
POLK, W. T., Perryville.
PALIN, D. A., Washington County.
PALMER, E. R., Louisville.
POWELL, J. W., McAffee.
PLUMMER, H., Harrodsburg.
PRETLOW, ——, Hopkinsville.
PERRY, M. R., Russellville.
PALIN, F. F., Westport.
PAYNE, N. P., Maxwell's Mills.
QUARLES, ALBERT, Moscow.
RICHARDSON, T. G.,† not known.
RONALD, G. W., Louisville.
ROSE, G. W., Cornishville, Mercer Co.
RAPHAEL, B. J., New York.
ROSS, J. O., not known.
RANKIN, PAUL,* Georgetown.
ROGERS, C., Louisville.
RIFFE, J. C., Hustonsville.
RAWLINGS, J., Georgetown.
ROGERS, L., Louisville.
RUDD, R. H., Louisville.
RODMAN, W. B., Frankfort.
RICHARDSON, E., Louisville.
ROBERTSON, D. D., Bremen.
ROBERTS, W. O., Louisville.
REYNOLDS, D. S., Louisville.
RIVERS, THOS., Hazelwood.
RICHARDSON, E. B., Paducah.
REED, R. G., Boaz Station.
SMITH, J., Lexington.
SPARKS, J. B., Harrodsburg, Ind.
SHADBURN, R. A., Louisville.
SWEENY, W. O., Lexington.
SPILLMAN, C. H., Harrodsburg.
SENTENY, W. W., Jeffersontown.
SCOTT, P. B., Louisville.
SINGLETON, R. H., Florence Station.
STEVES, J. B., Lexington.
SMITH, J., Lexington.
SNEED, W. C., Frankfort.
SPEED, J. J., Louisville.
SKILLMAN, H. H., Lexington.
SATTERWHITE, T. P., Louisville.
SMITH, W. T., Athens.
STOCKDELL, J. L., Lexington.
SLAUGHTER, A. A., Milburn.
SWAYNE, J., Ballardsville.
SCOTT, J. O., Owensboro.
SMITH, D. T., Louisville.
SENTER, W. D., Lovelaceville.
SINGLETON, J. W., Florence Station.
SAUNDERS, REUBEN, Paducah.
SLAUGHTER, D., Shelbyville.
SANDERS, W. H., Smithland.
TRIGG, H., Lagrange.
TODD, L. B., Lexington.
THOMPSON, D. D., Paducah.
THORNBERRY, P., Louisville.
TRABUE, B. F., not known.
THOMPSON, J. W., Paducah.
TOMLINSON, W., Harrodsburg.
TAYLOR, J. J., Lexington.
TYLER, G. B., Owensboro.
TUCKER, D. C., Danville.
TODD, O. D., Eminence.
THOMPSON, D. D., Paducah.
THUM, G. W., not known.
TINSLEY, J. J., Smithfield.
TEMPLE, J. J., Covington.
TAYLOR, R. W., Hawesville.
THORNTON, R. H., Newport.
TODD, C. H., Owensboro.
TROUT, JOHN, Benton.
TAUBER, BERNARD, Paducah.
ULRICH, C. F., Louisville.
VORRIES, A. C., Hickory Grove.
WHITNEY, J. W., Lexington.
WOOD, H. C., Owensboro.
WHITNEY, JOHN, Lexington.
WHITE, E. P., not known.
WOODRUFF, E.,† U. S. Army.
WISE, J. S., Covington.
WISE, T. N., Covington.
WIBLE, B. M., Louisville.
WHEATLEY, W. R., Lexington.
WILLIS, S. W., Pine Grove.
WOODBRIDGE, J. E., Neatsville.
WINLOCK, J., Hiseville.
WRIGHT, A. C., Bowling Green.
WAY, W. H., Louisville.
WATHEN, W. H., Louisville.
WARREN, J. H., Louisville.
WILSON, F. C., Louisville.
WATKINS, S. S., Owensboro.
WHEELER, W. G., Hopkinsville.
WITHERS, O. B., Parkersville.
WALLING, WILOUGHBY, Louisville.
WOODSON, E. W., Woodville.
YANDELL, L. P., Sr., Louisville.
YANDELL, L. P., Jr., Louisville.
YANDELL, D. W., Louisville.

HONORARY MEMBERS.

CARSON, W., Cincinnati.
MUSSEY, W. H.,* Cincinnati.
MURPHY, J. A., Cincinnati.
WOODWARD, J. J., Washington, D. C.
WILLIAMS, F., Cincinnati.

TRANSACTIONS

OF THE

KENTUCKY STATE MEDICAL SOCIETY.

NINETEENTH ANNUAL MEETING,

HELD AT SHELBYVILLE, KY., APRIL, 1874.

LOUISVILLE:
PRINTED BY JOHN P. MORTON AND COMPANY, 156 WEST MAIN STREET.
1874.

MINUTES OF PROCEEDINGS.

First Day.

MORNING SESSION.

The Kentucky State Medical Society met in "Layson's Hall," at Shelbyville, Tuesday, April 7, 1874.

The meeting was called to order at twelve o'clock M., and opened with prayer by the Rev. J. S. Grasty, of the Presbyterian Church; the President, Dr. J. W. Thompson, of Paducah, in the chair.

The following members were in attendance:

George Beeler, Clinton;
William Bailey, Louisville;
J. Baker, Shelbyville;
W. H. Beard, Christiansburg;
H. B. Bishop, Simpsonville;
D. P. Craig, Stanford;
W. W. Cleaver, Lebanon;
R. M. Fairleigh, Hopkinsville;
S. A. Foss, Lacona;
E. S. Gaillard, Louisville;
T. J. Griffiths, Louisville;
J. Hale, Owensboro;
J. A. Ireland, Louisville;
John D. Jackson, Danville;
J. M. Keller, Louisville;
J. A. Larrabee, Louisville;
R. F. Logan, Shelbyville;
James Lowry, Shelbyville;
H. M. Lowry, Shelbyville;
C. P. Mattingly, Bardstown;
Ely McClellan, U. S. A.;
Charles Mann, Nicholasville;
J. Y. Newkirk, Bedford;
W. Talbot Owen, Louisville;
D. N. Porter, Eminence;
Lewis Rogers, Louisville;
W. E. Ryan, Simpsonville;
D. S. Reynolds, Louisville;
W. O. Roberts, Louisville;
D. S. Slaughter, Shelbyville;
John J. Speed, Louisville;
Joseph Smith, Lexington;
L. B. Todd, Lexington;
Lunsford P. Yandell, Louisville.

Dr. James Lowry, chairman of the Committee of Arrangements, in a short address, extended a cordial welcome to "Old Shelby." He alluded with feeling to the many instances of self-sacrifice which have been made by physicians during the past year in contending with pestilence and disease, and called attention to the progress made in securing from the legislature a registration law, as also a law to suppress quackery and empiricism in this state.

The following Committee on Credentials was announced by the chair:

R. F. Logan, Shelbyville; H. F. McNairy, Caldwell County;
J. J. Speed, Louisville; D. N. Porter, Henry County;
Joseph Smith, Lexington.

On motion, the Society adjourned to meet at two o'clock P. M.

AFTERNOON SESSION.

The Society met at two o'clock, and was called to order by the President.

The Committee on Credentials reported favorably on the petitions of the following gentlemen for membership:

S. E. Winn, Glasgow; C. T. Keeney, Shelby County;
J. W. Ishmael, Mount Olivet; R. B. Cassiday, Centerfield;
M. S. Brown, Mount Olivet; J. H. Speer, Brownsboro;
James H. Letcher, Henderson; Albert Toon, New Liberty;
W. M. Hanna, Henderson; C. S. Fenner, Louisville;

Benjamin Letcher, Henderson; John J. Callahan, Wilsonville;
Peter Gunterman, Louisville; J. S. Ford, Shelbyville;
W. H. Long, Louisville; D. O'Nan, Christiansburg;
J. G. Webb, New Castle; W. E. Ryan, Simpsonville;
E. S. Swain, Smithfield; H. B. Bishop, Simpsonville;
Waller Chenault, Frankfort; R. H. Chilton, Louisville;
C. T. Widney, Shelbyville.

On motion to receive the report of the committee, a sharp and somewhat lengthy discussion occurred as to the eligibility of one of the gentlemen for membership, it being known that he was a resident of Louisville, and that he was not a member of any local society.

In this discussion Dr. Keller wished to be understood that his objection was not to the candidate concerned; on the contrary, he sincerely desired his membership; but he could not consistently vote for any gentleman as a candidate for membership in the Society when his admission to membership would be in direct violation of the constitution as amended at the last meeting. This amendment had been introduced by himself for the good of the Society; it was unanimously adopted; and no sooner become a law than it is proposed to violate it. Dr. K. here read the amendment and constitutional provision for membership.

Dr. L. P. Yandell stated that the gentleman whom these remarks concerned had not been long in Louisville.

Dr. Logan desired also to state that the gentleman in question had been a member of the Shelby County Medical Society, and was in good standing; and he would also corroborate the statement of Dr. Yandell, that he had removed to Louisville quite recently.

Dr. Bailey's motion to receive the report was carried. A motion to lay on the table by Dr. Keller was lost.

A separate vote was finally taken upon the name of Dr. Long, resulting in twenty-three yeas and five nays; and Dr. Long was declared duly elected.

Dr. Keller desired his reason for voting "no" to stand recorded—that the candidate was not a member of any medical society in the city or county in which he lives, the constitution expressly declaring that he shall be.

Dr. Porter desired to be represented as protesting against the reason given by Dr. Keller—viz., that the admission of the member is unconstitutional—the constitution not requiring the applicant to be a member of a society in the city or county where he lives, but a member of a county or local society.

Dr. J. W. Holloway, of Jessamine County, was duly elected a member of the Society.

Dr. John M. Woodworth, Supervising Surgeon U. S. Hospital Service, was elected an honorary member, and the Corresponding Secretary directed to inform him of his election.

The Secretary read a letter from the President and Secretary of the Illinois State Medical Society, introducing Dr. Andrew McFarland of that state as its representative to the Society of Kentucky.

Dr. McFarland came forward, and was welcomed by the President and introduced to the Society. He returned thanks for the cordial greeting he had received, and spoke in high terms of the profession of this and his own state.

The Recording Secretary read his annual report, which was received and adopted, and the suggestions therein made ordered to be carried into effect by the Publishing Committee.

The reports of committees were now in order, the calling of which resulted as follows:

Committee on Vital Statistics, no report; Committee on Obstetrics, no report; Committee on Epidemics, no report; Committe on Finance, no report; Committee on Improvements in Practical Medicine, no report; Committee on Hygiene, no report; Committee on Ethics, no report; Committee on Dermatology, no report.

Special Committees.—Committee on Glioma of Retina, no report; Committee on Fistula in Ano, no report; Committee on Immovable Dressings, no report [Dr. J. M. Keller, chairman of this committee, desired further time to finish his report and refer to the Publishing Committee, which was granted]; Committee on Phthisis Pulmonalis, no report; Committee on Diseases of Children, no report; Committee on Aural Surgery, no report; Committee on Syphilis, no report; Committee on Venereal Diseases, no report; Committee on Diseases of the Throat, no report; Committee on Diseases of the Chest, no report; Committee on Cerebro-spinal Meningitis, no report; Committee on Gynecology, no report; Committee on Hypodermic Medication, no report; Committee on Medical Electricity, no report; Committee on Post-partum Hemorrhage, no report; Committee on New Remedies, no report.

By consent of the Society, Dr. Ely McClellan read his paper at this hour on "Uterine Fibroid Tumors." Dr. R. F. Logan read a paper on Surgery. Both papers were referred to the Publishing Committee.

Dr. D. S. Reynolds, the Librarian, reported that he had no books, and never did have. Report received.

Dr. L. B. Todd, Treasurer, made his report, which, on motion, was received and adopted.

Dr. L. P. Yandell, chairman of the Committee on the Medical Literature of Kentucky, read extracts from a carefully-prepared paper upon this subject. Owing to the lateness of the hour, Dr. Y. could read but little. He stated that the paper was a part of an encyclopedia of the medical history of Kentucky which he had for a long time been preparing.

A vote of thanks was given to Dr. Yandell for this excellent contribution; and a motion, introduced by Dr. Owen, requesting Dr. Y. to continue his report at subsequent meetings of the Society until completed was carried unanimously.

Paper referred to the Publishing Committee.

Dr. McClellan remarked that while listening to the interesting paper of Dr. Logan he was impressed with the fact that Kentucky surgery was in the lead. It occurred to him that the performance of "bloodless operations," now attracting so much attention, was not an exception, but that the principle of Prof. Esmarch's operation was carried out by Dr. Mosby, of Kentucky, thirty-five years ago.

Dr. J. D. Jackson, after a few remarks touching the proneness of Americans to lose sight of their great and world-famed men of genius, presented the following resolutions from the Boyle County Association:

Resolved, That in the opinion of this Society it is proper that an organized effort be made to erect a memorial statue to the memory of Dr. Ephraim McDowell, "the father of ovariotomy," who performed the first operation of the removal of an ovarian tumor at Danville, Ky., in the year 1809.

Resolved, That the Kentucky State Medical Society be requested to sanction these resolutions.

JOHN D. JACKSON,
ELY MCCLELLAN,
J. M. MEYER.

Referred to Drs. Jackson, McClellan, Keller, and Meyer, with instructions to report the most practicable means of raising the necessary funds.

Dr. McClellan said it had been suggested to him that the women rescued by the "ovarian method" be requested to erect this monument in gratitude to their great benefactor.

A Committee on Nominations, composed of one member from each county represented in the meeting, was appointed by the President, and instructed to report upon the following morning.

Adjourned to meet at half past seven o'clock P. M.

EVENING SESSION.

Pursuant to adjournment, the Society convened at half past seven o'clock to hear the President's and other addresses, Dr. J. M. Keller in the chair.

On favorable report of Committee on Credentials, Dr. L. A. Grimes, of Concord, Lewis County, was elected to membership.

Several names were added to the Committee on Nominations from Lewis, Franklin, and Boyle counties, as were also several from Jefferson County.

Dr. Jas. Lowry then introduced Dr. J. M. Thompson, of Paducah, who delivered the regular annual address.

An address was then delivered by Dr. J. J. Speed, of Louisville, subject, "Has Medicine as a Science advanced."

Dr. E. Richardson then delivered an address upon the subject of medicine.

These addresses were referred to the Committee on Publication.

Society adjourned to meet at nine o'clock A. M., Wednesday, April 8th.

Second Day.

MORNING SESSION.

Society met pursuant to adjournment at nine o'clock, President Dr. J. W. Thompson in the chair.

The minutes of the preceding meeting were read, and with some slight corrections approved and adopted.

The Secretary presented a copy of the resolutions offered by the physicians of Louisville upon the death of Prof. Henry Miller, which, on motion, were referred to the Publishing Committee, and subsequently to the Committee on Necrology.

The Secretary read a communication from Dr. Coleman Rogers, Corresponding Secretary of the College of Physicians and Surgeons of Louisville, which is as follows:

DR. J. A. LARRABEE, *Secretary State Medical Society:*

Dear Sir,—At a regular meeting of the College of Physicians and Surgeons of Louisville, Ky., held on the 8th inst., I was directed to inform you that Dr. A. B. Cook, of this city, had been re-admitted as a fellow of that society, and is entitled to all its rights and privileges. This communication to you is with a view of bringing the matter before the Kentucky State Medical Society at its next meeting. You are hereby requested to take such action as you may consider necessary in order to re-instate Dr. Cook in the State Society and in the National Medical Association. Very respectfully,

COLEMAN ROGERS,
Corresponding Secretary, College of Physicians and Surgeons.

Dr. L. P. Yandell moved that Dr. Cook be re-instated in this Society on account of the action of the College of Physicians and Surgeons.

Dr. Richardson would inquire if Dr. Cook had made application to be re-instated. He (Dr. Richardson) deemed it essential that he should do so. The re-instatement of an expelled member, except it be based upon his application, he conceived to be a violation of the constitution, and on this account he felt himself in duty bound to oppose it.

Dr. Keller had seconded Dr. Yandell's motion, and hoped Dr. Cook would be re-instated.

Dr. Owen, although not especially empowered to do so, thought he could express the desire of his former colleague. He knew that Dr. Cook desired affiliation with the members of this Society, and he was satisfied that in this request he was sincere. That, inasmuch as the College of Physicians and Surgeons had taken the first step against Dr. Cook, his re-instatenent by the college was *ipso facto* a re-instatement to all other privileges from which he was debarred by the first action of the college. He would vouch for his integrity.

Dr. Gaillard desired to preserve the constitution inviolate, and at the same time to save the valuable time of the meeting. He moved the former action of this Society expelling Dr. Cook be rescinded, thereby leaving Dr. Cook a member of this Society by the payment of his dues.

Dr. Yandell accepted the motion of Dr. Gaillard as a substitute. Motion carried.

Dr. Ireland presented a paper from Dr. J. L. Cook, of Henderson, on "Rational Medicine," which was referred to the Committee on Publication.

The chairman of the Committee on Nominations submitted the following report:

For President.....Dr. J. Baker, Shelbyville.
Senior Vice-president.....Dr. George Beeler, Hickman Co.
Junior Vice-president.....Dr. J. Y. Newkirk, Trimble Co.
Recording Secretary.....Dr. J. A. Larrabee, Louisville.
Corresponding Secretary.....Dr. R. F. Logan, Shelbyville.
Librarian.....Dr. J. J. Speed, Louisville.
Treasurer.....Dr. L. B. Todd, Lexington.
Publishing Committee..... Dr. W. Talbot Owen, Dr. W. H. Galt, Dr. Turner Anderson, } Louisville.

Dr. Richardson here stated that Dr. Anderson had positively refused to serve upon the Publishing Committee if nominated.

Dr. Keller moved that the name of Dr. Anderson be referred to the Committee on Nominations. Carried.

Nominating Committee then reported the name of Dr. R. H. Gale in place of Dr. Anderson.

On motion, the report was received, and the above-named officers were unanimously elected.

A committee was appointed to wait on Dr. Baker, and inform him of his election.

The President introduced Dr. Baker, who returned his thanks for the honor conferred upon him.

An invitation from Dr. J. H. Letcher for the Society to hold its Twentieth Annual Session in Henderson was accepted.

Dr. J. H. Letcher was appointed chairman of the Committee of Arrangements.

Dr. Lewis Rogers then read a paper on "Climate in Pulmonary Consumption, and California as a Health-resort."

On motion, the thanks of the Society were tendered to Dr. Rogers for his interesting and valuable paper, which was referred to the Publishing Committee.

Dr. Jackson, chairman of the Committee on the McDowell Memorial, submitted the following report:

The Committee on the McDowell Memorial report that they have, in accordance with instructions received from this Society, proceeded to organize for the purpose for which the committee was formed, and would ask that the Kentucky Medical Society clothe said committee with plenary powers.

Dr. L. P. Yandell moved that the report be received and adopted, and the powers asked for be granted by the Society. Carried.

Dr. McClellan, in a few remarks, said that an experience of five years in the country described by Dr. Rogers led him to confirm the conclusions contained n his paper,

Dr. E. S. Gaillard, of Louisville, laid before the Society a paper on "Cerebro-spinal Meningitis." He did not desire to occupy the time by reading the whole paper, and would only read a short extract from the same, bearing upon the presence of a peculiar parasite, called *tricocephalus-dispar*, in one of these cases. Photographs of which, from microscopical drawings, accompanied the report.

On motion, the paper was referred to the Publishing Committee.

Dr. McFarland, of Illinois, by invitation then read a treatise entitled "The Medical Border Land." On motion, referred to the Publishing Committee.

Dr. McFarland said he did not expect this courtesy extended to a member of a medical society of another state.

The President responded that medicine was a brotherhood, and that the Kentucky State Medical Society knew no state bounds to its courtesies.

Dr. D. W. Yandell read an abstract report of six cases of ovariotomy performed by himself, and called attention to the specimens now before the Society.

Dr. Yandell's paper was referred to the Publishing Committee, and thanks were voted for his kindness in exhibiting the specimens for the benefit of the Society.

Dr. S. A. Foss read a report of the Committee on Registration. He deplored the lack of interest taken by physicians in the important subject of the registration of births, deaths, marriages, etc. He had endeavored to carry out the instructions of the Society, given to him at Paducah, but had failed to meet with encouragement from the profession. In the county of Jefferson alone more physicians had signed the petition than in all the rest of the state.

The Secretary, at the request of Dr. Foss, read the act (Bill No. 33) passed by the last legislature.

Dr. Foss stated that the Auditor had informed him hat the law would be enforced during the next year.

On motion, the report was received and referred to the Publishing Committee. The thanks of the Society were given to Dr. Foss, and the committee continued for the next year.

Dr. Keller inquired of Dr. Foss what amount of money had been expended by him in carrying out the orders of the Society in regard to registration.

Dr. Foss said he had expended for paper, circulars, and postage the sum of forty dollars.

Dr. Keller moved that the Finance Committee be instructed to report on the account, and recommend the payment to Dr. Foss of not less than fifty dollars. Carried.

Finance Committee reported in accordance with these instructions, and the Treasurer paid to Dr. Foss fifty dollars.

Dr. Dudley, of Pleasureville, Henry County; Dr. N. F. Nash, of Claysville, Shelby County; Dr. J. M. Harwood, of Shelby County; and Dr. C. J. Renfro, of Pleasureville, Henry County, were elected to membership.

Dr. Keller moved that the President appoint as delegates to the American Medical Association only those who will promise to attend, unless providentially prevented. Carried.

On motion, Dr. J. A. Larrabee was made an *ex officio* member of Committee on Publication.

Society then adjourned to meet at two o'clock P. M.

AFTERNOON SESSION.

The Society met at two o'clock; the President in the chair.

On motion of Dr. D. N. Porter, the President's name was made to head the list of delegates to the meeting of the American Medical Association at Detroit in June next, with the understanding that he will attend. Members desiring to be appointed delegates were requested to hand in their names to the Secretary.

The Secretary announced the following gentlemen as delegates to the meeting at Detroit of the American Medical Association, which meets on the first Tuesday in June:

Jos. W. Thompson, Paducah;	D. N. Porter, Eminence;
H. M. Skillman, Lexington;	D. D. Carter, Versailles;
J. M. Keller, Louisville;	J. A. Larrabee, Louisville;
R. H. Gale, Louisville;	L. B. Todd, Lexington;
D. S. Reynolds, Louisville;	J. A. Octerlony, Louisville;
T. J. Griffiths, Louisville;	E. McClellan, U. S. A.;
J. D. Jackson, Danville;	D. W. Yandell, Louisville;

C. P. Mattingly, Bardstown.

Dr. D. S. Reynolds, of Louisville, read a paper upon "Diseases of the Conjunctiva," which, on motion, was referred to the Publishing Committee.

Dr. J. A. Larrabee, of Louisville, read a paper upon "Summer Complaints of Children." On motion, referred to the Publishing Committee.

Dr. Lewis Rogers presented the following resolutions, and, in a short speech, moved their adoption:

Resolved, That the State Medical Society of Kentucky does cordially unite with the American Medical Association in the memorial to Congress in support of a bill to increase the efficiency of the Medical Department of the United States army, now before that honorable body.

Resolved, That this Society considers it an act of justice that the members of so important a branch of the service—gentlemen of the highest professional attainments and excellence of character, and charged with such weighty and responsible duties—should hold the same relative rank and enjoy the same emoluments as members of the other staff corps of the army.

Resolved, That it be respectfully urged upon the members of Congress from the state of Kentucky to use their influence in support of the bill in question.

The resolutions were, on motion, adopted unanimously, and the Corresponding Secretary ordered to inform the Kentucky delegation in Congress of their adoption.

Dr. D. N. Porter offered the following resolutions:

Resolved, That the too common practice of physicians appearing in the public newspapers of the day can not be too strongly and unhesitatingly condemned as unbecoming our learned and honorable profession.

Resolved, That any member of this Society who shall appear in a newspaper logomachy after this date will expose himself to the danger of censure, with the purpose of expulsion from the same, for this non-professional and reprehensible practice.

Resolved, That physicians, as physicians, be kindly requested to write for medical journals only.

A rising vote was taken, resulting in the unanimous adoption of the resolutions.

Dr. R. F. Logan, of Shelbyville, introduced the following resolution, which was adopted:

Resolved, That this Society petition the legislature of Kentucky to amend the law in reference to apothecaries, known as the pharmacy

bill, so as to include all persons who compound medicine in any part of the state of Kentucky.

Dr. S. A. Foss introduced the following resolution which was adopted:

Resolved, That the acts passed at the last session of the General Assembly tending to the suppression of quackery and the reduction of incompetent druggists meet our warmest approval.

Dr. R. H. Gale, of Louisville, then read a paper on "Calculus in the Female Bladder," illustrated by cases and specimen. On motion, the paper was referred to the Publishing Committee.

Dr. Gale offered the following resolutions, which were adopted:

Resolved, That this Society deeply deplores the death of its distinguished and honored members, Drs. Henry Miller, G. W. Bayless, W. T. Humphreys, and Richard H. Rudd, during the past year, and that assurance of our sincere condolence be presented to the families of the deceased.

Resolved, That a committee on necrology be appointed to prepare a memoir of our deceased brothers, and that they be directed to incorporate these resolutions in their report.

Resolved, That all resolutions relating to deaths of members of this Society be referred to said committee.

The chair appointed Dr. R. H. Gale, Dr. J. J. Speed, and Dr. William Bailey on this committee.

Dr. William Bailey, of Louisville, requested leave to read a paper on "Albuminuria" in place of the subject which had been assigned him. Dr. Bailey read his paper, which was referred to the Publishing Committee.

The committee appointed to prepare a memoir on the death of Dr. Paul Rankin was continued until the next meeting.

Dr. J. Hale, chairman of the Committee on Gynecology, gave his reason for not reporting; he was not aware that he had been continued on that committee.

Dr. F. C. Wilson read a paper on the "Therapeutic Properties of Oxygen Gas." Referred to the Publishing Committee.

Dr. C. S. Fenner, of Louisville, read a paper on the "Pathology and Therapeutics of Glaucoma." Referred to the Publishing Committee.

Dr. D. W. Yandell since leaving the hall during the last hour had amputated a leg. By request the morbid specimen was presented to the Society. The amputation was performed upon the thigh in its middle third. The operation was what is termed "the bloodless operation," and one of the Esmarch bandages, on exhibition in this hall by Wm. G. Schmidt, was used. The operation as regards the loss of blood was not so successful as usual by reason of the presence of the large tumor near the site of amputation.

Dr. Larrabee moved that the President's address be published in the newspapers. Dr. L. thought such a motion necessary, as the Society had adopted the resolution prohibiting such publication. Motion carried.

Dr. McClellan offered a resolution directing that, in the event of the funds of the Society being insufficient to meet the necessary expenses of a good publication of the Transactions, the Secretary and Treasurer be authorized to assess an additional due upon each member, and collect the same to supply the deficiency. Adopted unanimously.

The Secretary presented a report from the Medico-chirurgical Society of Louisville. Ordered to be read.

Dr. Gunterman, of Louisville, and Secretary of the above-named society, read the report.

Dr. D. W. Yandell spoke in high terms commendatory of the report, and expressed regret at the brief notice therein given of most important cases.

On motion, the report was received and placed in the records of the Society.

Dr. McClellan, with a view of providing for this excellent feature in our future meetings, introduced the following resolution, which, being a new by-law, was required to lie over until the next meeting:

Resolved, That the Kentucky State Medical Society solicit annual reports from each county medical society in the state, which reports shall consist of a statement of their condition, progress, and prospects.

Communications from Dr. W. W. Dawson, of Cincinnati, and from Dr. H. M. Skillman, of Lexington, were received, expressing their interest in the meeting and regretting their inability to attend.

The following chairmen of standing committees were appointed by the chair:

Committee of Arrangements.....Dr. J. H. Letcher, Henderson.
Committee on Vital Statistics.....Dr. D. N. Porter, Eminence.
Committee on Obstetrics.....Dr. J. A. Ireland, Louisville.
Committee on Epidemics.....Dr. T. S. Bell, Louisville.
Committee on Improvements in Surgery.....Dr. R. O. Cowling, Louisville.
Committee on Finance.....Dr. Joseph Smith, Lexington.
Committee on Improvements in Practical Medicine.....Dr. John D. Jackson, Danville.
Committee on Hygiene.....Dr. C. P. Mattingly, Bardstown.
Committee on Medical Ethics.....Dr. R. M. Fairleigh, Hopkinsville.
Committee on Improvements in Pharmacy.....Dr. L. A. Kastenbine, Louisville.
Committee on Dermatology.....Dr. J. A. Octerlony, Louisville.

The following chairmen of special committees were also appointed:

Committee on Hypodermic Use of Atropia in Epidemic Cholera	DR. D. P. CRAIG, Lincoln County.
Committee on Pyæmia	DR. E. MCCLELLAN, U. S. A.
Committee on Malaria	DR. W. H. LONG, Louisville.
Committee on Tuberculosis	DR. W. E. RYAN, Simpsonville.
Committee on Glioma of Retina	DR. J. HALE, Owensboro.
Committee on Ophthalmology	DR. D. S. REYNOLDS, Louisville.
Committee on U. S. Marine Hospitals	DR. T. J. GRIFFITHS, Louisville.
Committee on Post-partum Hemorrhage	DR. R. H. GALE, Louisville.
Committee on Surgery	DR. J. M. KELLER, Louisville.
Committee on Ovariotomy	DR. D. W. YANDELL, Louisville.
Committee on the Aspirator and its Uses	DR. E. S. GAILLARD, Louisville.
Committee on Cataract	DR. C. S. FENNER, Louisville.
Committee on Diseases of the Genito-urinary Organs	DR. J. W. THOMPSON, Paducah.
Committee on Transfusion	DR. F. C. WILSON, Louisville.
Committee on Medical Literature of Kentucky	DR. L. P. YANDELL, Louisville.
Committee on Malarial Diseases	DR. CHARLES F. ULRICH, Louisville.
Committee on Diseases of the Throat	DR. R. BRANDEIS, Louisville.
Committee on Diseases of the Rectum	DR. R. F. LOGAN, Shelbyville.

The thanks of the Society were tendered to the profession and citizens of Shelbyville; to the Elizabethtown & Paducah and Short-line railroads; to the President for the lively interest he had manifested in the welfare of the Society; to the Secretary for the faithful discharge of his arduous duties; and to the different newspapers and representatives of the press.

The Society adjourned to meet at Henderson on the first Tuesday in April, 1875.

J. W. THOMPSON, *President.*

J. A. LARRABEE, *Secretary.*

ADDRESS OF THE PRESIDENT

BY J. W. THOMPSON, M. D.

GENTLEMEN: I am fully impressed with the dignity and responsibility of the position of President of the Kentucky State Medical Society. The selection has usually been made from among those distinguished in the profession. I attribute the honor done me rather as a compliment to my section of the state than to any merit of my own. I felt much misgiving in assuming the duties of the high position, and my heartfelt prayer has ever been that I might be enabled to discharge them impartially and leave a clean record; and I assure you I feel with profound sensibility the honor and the responsibility of the position in which I stand.

Kentucky has a grand history in Medicine and Surgery, and the renown of her distinguished sons has been recognized and heralded throughout the civilized world. To-night our minds naturally revert to the lives of those who have rendered our history illustrious, and who originated and fostered this Society. Our records contain names that any state or country might be proud to claim, and we should ever cherish a grateful remembrance of these distinguished medical characters and former members of this Society.

Annually we meet around the altar of medicine, actuated by enthusiasm and zeal for the noble science of the healing art. No religious or political creed bears upon our feelings or prejudices. We for a brief time make a truce with the labors and responsibilities of practice, and assemble together for the interchange of opinions and experiences, and kneel in devotion at the shrine of Medicine. That no vindictive political or fanatical spirit characterizes our profession is proven in the meetings of our National Association, where we gather around the throne from the genial clime of the Gulf States, from the snow-clad hills of New England, from the great Northwest,

and from the Pacific slope. In that union we work together in harmony. All are governed by a sincere desire to go deeper into the *penetralia* of science, each eager to lend his aid in bringing forth knowledge for the healing of the people.

The preparation of an address has been no easy task. Almost every thing that could be said on an occasion like this has been presented time and again, and much more ably than I dare flatter myself is in my power.

EPIDEMICS.

The past year has been an eventful one in the history of our profession. Many whose hearts and hands were with us in this and other states at the time of our last meeting have passed away. Epidemics have raged through the land. The profession has been put to a test seldom known in its career. We have had another opportunity to demonstrate our fidelity to society, often so poorly reciprocated. And while we mourn our lost ones, it is with pride and gratification we can say that where duty called our profession never flagged nor failed. In the trying times of cholera and yellow fever, I am proud to say that when "the pestilence that walketh at night and wasteth at noonday" was devastating cities and towns our profession performed its whole duty. In the desolated cities of Memphis, Nashville, Shreveport, and some Kentucky towns, under the intense heat of summer sun, in the long weeks of dark and trackless nights of gloom, when death was claiming its victims by hundreds, when all who could were fleeing for safety, when those who stayed crouched down in mute despair, the doctors stood to their post of duty amid sickness and contagion, and fought the terrible battle with death.

These sad scenes are vivid to many of us. They show the noble self-sacrifice of medical men when malignant diseases attack mankind. We can safely rest the fidelity of the profession to society with its history during the past year; and society can with equal safety trust the profession to do all in human power when danger comes.

When for seven long weeks the dark cloud of mourning hung over the city of Memphis, when the groans of the dying were heard from almost every house, the medical men, with a heroism seldom equaled and never surpassed, true to their vows, their manhood, and their profession, stood faithfully by the calls of duty.

But notes of victory are most generally tinged with sadness by the requiem for the dead. In leafy Elmwood Cemetery sleep our brothers, Williams, Freeman, Crone, Hatch, Kennon, Blount, and Minor, noble martyrs, who died struggling for the lives of their fellow-men. They could have left; but duty called, and, "like the Roman sentinel at the gate of Pompeii, they stood to their post while the terrible scourge that swept around them ate out the dauntless spirits it could not conquer." They sleep on the bank of the great river, "the Father of Waters." There is a mournful sound in the rippling of that river by whose shores their feet shall tread no more; there is a moaning in the wind's voice as it whispers round the homes they shall see no more. Pitiful nature gives tribute of lamentation, and we know it is for them.

Steps should be taken by the profession to erect a monument over them in commemoration of their virtues, that those who follow may emulate their example, and that the history of their heroic deeds may not be lost or forgotten.

Duties to the Profession.

I have said we meet annually for the interchange of opinions and experiences. All educated medical men owe it to the science to give to the profession the results of their labor and experience. It is not just that they should receive their qualifications from association with the profession and give nothing in return, as a great number do. They are nurtured, reared, and strengthened by medical science and experience; yet through sordid, contracted motives or a lethargic disposition they contribute nothing, having received all. If our Maker endows us with intellects fitted to investigate and contend with disease, it becomes our duty to give the benefit of our observations to the profession, for the advancement of science and for the good of society in general. The majority of our fraternity seem to disregard this obligation entirely. It points to a selfishness of human nature so unjust that it is greatly to be regretted that a class of men engaged in the noble calling of medicine should be characterized by it.

We should not be insensible to the pecuniary remuneration which should come from professional labor, sufficient for the moderate and reasonable demands of life; yet to make money the sole aim, regardless of the requirements nature has apportioned to us and which are due to the healing art, and endeavor to add nothing to the science of medicine, is a violation of the sacred obligation that every medical man

owes to the profession. We are a class of men destined by Providence for the performance of a high duty; our trust is the most responsible, our associations of the most delicate character. We should therefore keep ourselves well qualified for this high position, with a proper regard for the business portion of our calling. The scripture-teaching is here applicable, "Seek first the kingdom of God and his righteousness, and all these things shall be added unto you." Seek first to acquire a thorough knowledge of medicine and discharge well the duties to the sick, and reasonable success in practice is sure to follow.

Medical men draw upon and profit by the science that has been accumulating for more than eighteen hundred years. It contains the labors and experiences of some of the ablest men that ever lived. Now can any man of ability be complying with duty when he has received so much and contributed nothing? What respect would be paid to a son who when first born, the most helpless of all creatures, had received suck, nutriment, been watched and reared by the mother, then refuse in the prime of his success to render needed aid to her? He could but be regarded as a selfish, unfeeling, unjust man. Such, to a great extent, must be the character of the doctor who through the aid of the developments in medical science reaches a highly respectable position in practice, and yet furnishes nothing from his accumulated experience in return. If John Hunter, Sydenham, Jenner, and Velpeau, for instance, had wasted the accumulations of the valuable lives of which we could scarcely sustain the loss, if they had thus put their light under a bushel, the walls of the Temple of Medicine would be weak, frail, incomplete, and unable to withstand the attacks of empirics and self-styled reformers. But they were true to the profession in exerting their talents energetically and offering the results of their valuable researches to students of medicine; and if we endeavor faithfully to follow their example and foster the priceless legacy they left us, the temple whose foundations they laid, whose walls they reared, shall stand forever, a glorious monument to our science.

"In this fair niche, by countless billows laved,
Trace the deep lines that Sydenham engraved;
On yon broad front that breasts the changing swell
Mark where the ponderous sledge of Hunter fell;
By that square buttress look where Velpeau stands,
The stone yet warm from his uplifted hands;
And say, O Science! shall thy life-blood freeze
When fluttering follies flap on walls like these?"

It is not advisable that all medical men should attempt to write books; but they should give the results of their experience and observation through leading medical journals, and in contributions to the national and state societies. This much is due to the profession and to the afflicted of mankind.

Reports of Committees.

At the last meeting of this Society, out of the twenty-three special committees previously appointed, only six reported. Such an almost complete failure of the committees to report is very greatly to be regretted. We can not hope to do justice to the position we occupy while these duties are so shamefully neglected. When a member accepts appointment on a committee it is his sacred duty to make report. Failing to do this, he is but a drone in the hive, receiving, enjoying, and profiting by the labors of others, and contributing nothing. Such a course is unworthy of the members of this Society. A comparison of our proceedings with those of medical societies in other states will readily show that this neglect renders us inferior to them. If we will but do our duty, our transactions may be made equally as interesting and as useful as those of any state society.

It is true that the published proceedings of our last session showed a marked improvement on those of several years past, due mainly to the influence and energy of my distinguished predecessor, Dr. Lewis Rogers, of Louisville. It is to be hoped that the different committees will in future be prompt with their reports, as in this way alone can proper interest in this Society be maintained.

I am satisfied that my predecessor was ably assisted by his Recording Secretary, Dr. J. A. Larrabee, of Louisville, and I can assure you that the interest and zeal he has shown for the welfare of this Society since I have been presiding officer merits your highest regard, and I sincerely thank him for the valuable assistance given me during the past year.

The Woman Movement.

The attention of the public has been much attracted of late to hat is known as the "woman movement." Woman controls the orld in a great measure by the gentle influence she wields in the religious, domestic, and social circle, where she ever reigns supreme; nd in that position it is the pride of man to admire her and seek her

approval. For the high moral standing throughout the civilized world we are greatly indebted to the refining qualities of woman's influence. She is ever found an enthusiastic advocate of the sacrifice of the Savior for the redemption of mankind. Ever since the appearance of the star in the east announcing to the world the birth of Him who was to save man she has been seen nobly exerting herself to fill up and strengthen the ranks of the Christian army. But not satisfied with this powerful control by their sex over society, the women in some parts of our country, not content with their God-given influence over the destinies of their progeny, man, wishing to abandon their high position, are asking, nay, demanding permission to descend and enter our legislative halls and command in the senate. They even knock at the door of the temple of medicine, and claim full fellowship with us.

From physical peculiarities woman is not adapted to and can not undergo the hardship incident to the practice of medicine. "Every being has a distinct mission to fill in the great plan of creation. There is a definite design for each creature, which can only be accomplished when working in obedience to the law of its nature. This law extends through all, and mankind can not escape or evade it. Long ago we have learned to recognize it as one of the principles of social welfare that each individual has his or her appropriate place." I hold that woman is not adapted physically or mentally to the practice of our profession. Therefore, in keeping with the laws of nature, she can not succeed as man has hitherto done. But in entering the rough forum of politics and medicine she must neglect those delicate and refined duties, lose her charming and endearing influence, and lower the moral character of the people.

The dignity of woman will certainly be no higher when she unsexes herself, and becomes the competitor of man in the dissecting-room with scalpel in hand and in the much-exposed and laborious life of practice. Woman's mission has been fixed by the immutable law of nature, which will not be violated without imposing the penalty. St. Paul says, "The man is the head of the woman." "Husbands, love your wives, even as Christ loves the church." "Therefore as the church is subject unto Christ, so let wives be subject unto their own husbands in every thing." "Wives, submit yourselves unto your husbands as unto the Lord; for the husband is the head of the wife,

even as Christ is the head of the church." What could be plainer than these divine injunctions? Yet there is a class of so-called strong-minded women who ignore this sacred law and the law of nature, and insist that they must be permitted to enter the trying life of the practice of medicine and to battle in the tempestuous sea of politics.

History proves that the ascendency of "strong-minded" women, followed by weak-minded men, caused the downfall of the once proud and imperial city of Rome. Wherever woman has permitted her affections to roam beyond her legitimate, God-appointed sphere she has made great failures. But in her own circle her success has been eminent. There she has won the admiration of the world, molding the minds and characters that unfolded science and gave it swift progress; there she prepared and sent forth our Washington, Clay, Webster, Benton, and Lee, each recognizing her as the inspirer and tutor of his ambition and distinction. The protest against this woman doctor-movement should not only come from the medical profession, but from every true philanthropist.

I am proud to say that Kentucky's fair women indicate no desire to participate in this ill-advised movement, and that the land so noted for the high character, beauty, and eminent virtue of her women will never be degraded by such unhallowed aspirations. The women—God bless them!—"Heaven's last and best gift to man:" Kentucky is indebted to them for the greater part of her glorious history, and it will never be tarnished by their laying aside the mantle of the true woman.

SPECIALTIES.

The subject of specialties is receiving considerable notice by our profession, especially in large and growing cities.

Experience in the division of practice in this country and in Europe is decidedly in favor of specialties. It is highly probable that the expansive and expanding science of medicine will in justice receive a division of labor. Professor Van Buren, of Bellevue Hospital Medical College, New York, in an introductory address says, "I assume the fact as granted that specialists or experts in certain branches of professional knowledge must exist, certainly in large cities and at seats of learning. The increasing scope of the medical sciences rendering

it impossible for one man to approximate perfection in all, and the concentration of population in large cities affording the fullest occupation for the largest capacity in any special line of practice, seem to me to justify this assumption."

The adoption of specialties may call for some change in our ethics. I have thought justice would require that a medical man professing to practice in one department should be required to confine himself to that alone, and not be permitted to trespass upon ground allotted to others. In other words, he should be required to practice what he professes, and nothing more. It does not seem right that one should receive the support of the profession as an expert in a certain branch and share equally with others in the whole science of medicine. The concentration of a good mind upon a specialty would certainly make greater progress than in attempting to comprehend the whole of our broad science. I merely suggest that the customs of specialists and the circumstances of the times may necessitate some change in our code.

It is with great caution that I would recommend any modification of our present medical laws. It is a well-established fact that no beginner should embark in the practice of a specialty. A doctor should have at least ten years' experience in general practice before selecting any one branch of the science of medicine, that he may have a good knowledge of pathology and therapeutics, which necessarily bear on each and every department of practice, and must be properly understood to make a successful expert in any specialty. We all recognize the great additions to our science made by those distinguished European specialists, Spencer Wells, Sir Henry Thompson, Ricord, and Von Graefe, and in our own country Marion Sims, Emmet, Atlee, Bumstead, Gouley, and Van Buren. We could not well dispense with the valuable results of their research.

Registration Law.

After repeated appeals from this Society the registration law, requiring a record to be kept of the births, marriages, and deaths in this state, has been revived by our legislature. For the re-establishment of this law we are greatly indebted to Dr. C. A. Foss, of Jefferson County, chairman of the committee, for his ability and energy, which did most in securing the passage of the bill.

The act, as it does not provide for a registrar, is inoperative; but it is to be hoped that this deficiency will be supplied by the next legislature.

We have also great reason to be thankful for the recent legislation which purposes to drive empiricism from our state. If the medical examining boards, appointed by the Governor under the act, will do their duty faithfully and impartially, making good knowledge of medical science the only test, and disregarding favoritism of every kind, much benefit will result to the profession and to society by suppressing quackery in Kentucky. I am informed that much credit is due Dr. Ellis, member of the legislature from Greenup County, for originating the bill and energetically assisting in securing its passage. We have long hoped for the enactment of such a law, and should give it our most hearty support.

The justly favorable consideration given the profession by our legislature during its last session induces us to indulge the hope that ere long dissections will be legalized, when we will no longer be compelled to go as "the thief in the night" to procure subjects for the demonstration of anatomy, the foundation of medical science. The law could be passed with certain restrictions to prevent indiscriminate dissection. I am sure no medical practitioner or student would mutilate a dead body except in a proper anatomical investigation. I recommend that we continue our efforts to secure the passage of this law by the appointment of a committee for the purpose, or otherwise, as the Society may think best.

Skepticism.

It has been charged that skepticism is a characteristic of the medical profession. This accusation is untrue and unjust. Our anatomical investigations, showing all the harmonious workings of the human body, go to strengthen the teachings of the divine book. Our profession is ever ready to give aid to the suffering poor and helpless of mankind. The doctors' intimate relation and association with society generally makes known to them more than any other class of people the imperfect practice of many professed and zealous members of the church, and in the midst of such experience frequently observe the palpable neglect of leading church members in following and carrying out the precepts of our blessed Lord, the meek and

lowly Jesus. It may be that, seeing such examples, they are not induced to regard church membership as essential as they should. But it can not be doubted that the heroism which nerves our members to breast the destructive pestilence that makes the warrior pale is based upon a duty not only to mankind, but to the great Ruler of the Universe.

I would not be understood as offering the above as sufficient apology for members of the profession remaining outside the church, but in refutation of the unjust charge, and to prove that skepticism is an exceptional characteristic of medical men.

Dr. Humphreys.

That seemingly cruel and unwelcome visitor, Death, has laid his icy hand upon some of our own members during the past year.

Dr. W. T. Humphreys, of Louisville, a young and promising physician, and at one time Corresponding Secretary of this Society, died in September last. It seems hard that one so young and qualified to do so much good should be thus early called from among us; but we must bow in submission to that Power which in all things doeth for the best. He is lost to us, but he has gone to that Father whose love and protection is as boundless as his might.

Dr. Bayless.

Dr. George W. Bayless, Professor of the Principles and Practice of Surgery in the University of Louisville, also yielded his life to the God who gave it. Dr. Bayless was not only eminently successful as a teacher and practitioner of surgery, but possessed a rare versatility of talent. If I mistake not, he lectured in four different chairs in medical schools, and sustained himself with honor and credit in all of them. He devoted his life to the science of medicine, and his whole course was marked by the endeavor to alleviate human suffering, and to teach medical students accurate science and the responsibility of taking charge of human life when struggling with disease. While we sadly regret his death, we can yet gather consolation in looking back over the life of one who did his duty to his family, to the profession, and to society.

DR. MILLER.

In February last Dr. Henry Miller, Professor of Surgical Diseases of Women in the Louisville Medical College, a member of this Society, and one of its brightest ornaments, breathed his last. The name of Dr. Miller calls up trains of affectionate remembrance in the minds of most of us. His virtues were many; but, alas! virtue has no shield to ward off the arrows of death. O Death! thy chilling touch seems terrible; but thou wilt listen to no protest. He has passed away, but the memory of his example should stimulate our best efforts to be like him. While we mourn his loss, our thanks are due to the kind Providence that gave us the benefit of his usefulness into the evening of life.

No medical man in this state ever possessed such a hold upon the affections of the profession and the people. Lisping children, gay youths, and aged men and women spoke his name with tenderness, and many were the tear-bedimmed eyes when it was heralded through the land that Dr. Miller was no more.

He was no ordinary man, as hundreds of his former students will testify. He was an acknowledged leading authority in obstetrics and gynecology, both in this country and in Europe. Kentucky has a right to be proud of him. "He was to the manor born," and his works will add greatly to her medical history. He was an original, a self-made man. Endowed with a fine intellect; a clear, deep, thinker; eminently practical and warm-hearted; all combined with pure habits to make a great doctor, and show what application, energy, and fidelity to the profession can accomplish.

He attracted many patients from the West and South, and to-day many good women in all parts of the country unite with us in mourning his loss. A distinguished legal friend of mine told me that when he accompanied his wife, some years ago, to consult Dr. Miller he observed that his superior intellect was apparent without an effort on his part. He impressed every intellectual person with whom he came in contact that he possessed a strong mind.

While his age and feebleness had in some measure prepared us to expect his demise, still it is characteristic of the human mind to cling with affectionate hope to one whose greatness and nobility of soul have won our admiration and love. We must leave him to his gentle

repose. His spirit has left the friends of his old age, and gone to join those of his youth—Drake, Caldwell, Cobb, and Powell.

McDowell Monument.

There is a name which stands as a priceless gem in the history of Kentucky medicine and surgery—the name of Ephraim McDowell. We all bow with reverence to his memory. His wonderful discovery and distinguished services should incite us to guard and protect the legacy of his exalted genius, not only as a measure of justice to him, but to Kentucky surgery, on whose historic page his name stands highest. Such services should be rewarded by a monument whose shaft should reach high above the bushes and briers that now cover his lonely grave in the cemetery of General Shelby, in Lincoln County, in this state. The monument must be reared, and the responsibility of building it is upon this Society. Upon us rests the "labor of love" of perpetuating the fame of him who originated and successfully established the operation of ovariotomy, which "has given to woman more than thirty thousand years of actual life."

The women of the world ought to have erected this monument long ago, and I doubt not that our present efforts will receive their hearty co-operation. It should be a matter of pride to them and the medical profession, and indeed to civilized people throughout the world, to aid in paying this just tribute to his genius. But if unaided from any quarter whatever, we must preserve the memory of one who reflected so much honor on the medical reputation of our state by the renown he has secured in this country and in the whole civilized world, and who even up to this time is quoted with more reverence than those of Kentucky's distinguished sons whom we are all proud to claim.

It is true that the selfish vanity of some medical men in Europe has caused them to endeavor to snatch from him the credit of the one achievement which alone would yield undying fame. But facts valuable to history and to justice will not permit it, and never while I can raise my voice or move my pen will I in silence allow one leaf to be plucked from the wreath that entwines his brow.

If he could be consulted, he would doubtless prefer to have his last resting-place marked as it is—"E. McDowell" upon a simple slab; but our admiration for such an illustrious medica character should

make us unwilling that he who has done so much good and added so much glory to Kentucky surgery should lie in such a neglected place. If his history belonged to England, France, Russia, or any other country in Europe, the marble column with the tallest spire, indicative of the mental height of him who rested there, would mark the spot where so much greatness lies. And we must not be behind them. It belongs to Kentucky medicine and surgery to do this work, and let us never cease our efforts until a suitable monument marks his tomb, which should be a "Mecca" to us all.

I hope I shall not be censured if in imagination I linger too long near his shrine, how poor soever be the offering I bring to it. I suggest that a committee be appointed, as was first proposed by my distinguished friend, Dr. J. D. Jackson, of Danville, to be called the McDowell Monument Committee, with instructions to proceed in the most practical way to raise money for the purchase of the monument.

Conclusion.

In conclusion I earnestly invite every Kentucky doctor to go with us in our determination to foster this Society, and, following the example of our worthy predecessors, strive to promote the welfare of our noble profession.

Kentucky can well boast of her eminent jurists, statesmen, and orators; but she can point with equal pride to her distinguished medical men—McDowell, Bradford, Dudley, and Miller—who left a record as bright as theirs; and we should do all in our power to transmit to our successors this history untarnished.

Let the escutcheon of our beloved state be ours, and with it let us cluster around the altar of medicine, ever striving, not against one another, but with concentrated effort to elevate and protect our standard; so that when we have finished the battle with disease and empiricism, and our career draws to a close, we can look back over a life of usefulness, having the satisfaction which proceeds from the consciousness of duty faithfully performed. Invoking the blessing of Almighty God upon the fruits of our endeavors, and with hearts and hands united, we can say to each other in the language of the dying York to his expiring brother in arms,

> "In this glorious and well-foughten field
> We kept together in our chivalry."

FIBROID TUMORS OF THE UTERUS.

BY ELY M'CLELLAN, M. D.,
Assistant Surgeon U. S. A.

Mr. President and Gentlemen of the Kentucky State Medical Society:

I make bold to ask a portion of your valuable time to the consideration of that class of pathological changes to which the human uterus is peculiarly liable, and which are denominated fibroid tumors. The literature of this branch of gynecology is already rich in observed facts, and to its stores valuable contributions are being yearly made by illustrious observers.

Of tumors affecting the uterine structure the fibroid is the variety most frequently met with. So often indeed has this pathological condition been found that, did we place implicit faith in the statements of many eminent gynecologists, we could hereafter look upon women but as sentient uterine fibroids.

An examination of the statements of recognized authorities as to the frequency with which this morbid change occurs in the uterine structure is not only interesting, but instructive.

Klob affirms "that undoubtedly forty per cent of the uteri of females who die after the fiftieth year contain fibroid tumors."[1] Bayle states that "the fifth part of all women above thirty-five years old are affected with fibrous tumors of the uterus."[2] The American editor of Scanzoni, confining himself to one race, states that "perhaps we should not much err were we to say that among the blacks, at the North certainly, the female of forty without one or more fibroid uterine tumors would be the exception rather than the rule."[3] West, cautious and exact, writes, "Fibrous tumors are generally regarded — and I

[1] Pathological Anatomy of Female Sexual Organs, Am. ed., p. 177.
[2] Liverpool Medico-chirurgical Journal, vol. 1, p. 61.
[3] Diseases of the Sexual Organs of Women (translation), p. 239.

believe with truth—as the most frequent of all organic diseases of the womb;" and after passing many statistics in review he continues, "From these data we arrive at nothing more definite than the general conclusion that fibrous tumors of the uterus are very frequent, probably more frequent than cancerous diseases of that organ."[1] Rigby writes, "The fibrous tumor is the most common and least dangerous of the structural changes which are observed to take place in the uterus."[2] McClintock places himself on record: "Without question the most frequent disease of the uterus, if we except inflammations and their effects, are fibroid tumors."[3] Hewitt writes, "It is highly probable that the fibroid tumor of the uterus is very frequently present in cases where its existence is not suspected."[4] Marion Sims notes the frequency with which he has met with this class of tumors.[5] Meadows, in his recent lectures, states that "fibroid tumors are the most common of all organic diseases of the uterus."[6] Billroth writes, "The localization of fibroma varies greatly; of all the organs the uterus is most frequently affected."[7]

We have quoted authorities to this extent as rendered necessary by the evidence to the contrary which may be adduced from the statements of the following writers.

Pollock stated that "during a period of ten years out of five hundred and eighty-three female deaths in St. George's Hospital, London, but thirty-nine were found to have fibroid tumors of the uterus."[8] Prichard and Lair state that "in eight hundred examinations made by them they met with but seven cases of uterine fibroids."[9] Braum and Chairi, that of two thousand four hundred and ninety-four post-mortem examinations of both sexes but twenty-five instances were found of the presence in the uterus of these tumors.

From this contradictory evidence—and but a portion of that existing in medical literature has been noted—we can but arrive at the conclusions upon which the opening assertion of this paper is

[1] Lectures on the Diseases of Women, Am. ed., p. 224.
[2] Constitutional Treatment of Female Diseases, Am. ed., p. 148.
[3] Clinical Memoirs on Diseases of Women, London ed., p. 110.
[4] Diagnosis, Pathology, and Treatment of Diseases of Women, p. 43.
[5] Files of the London Lancet, and Uterine Surgery.
[6] London Lancet, May 10, 1873.
[7] General Surgical Pathology and Therapeutics (translation), p. 567.
[8] London Lancet, February 7, 1852. [9] West, op. cit., p. 224.

based. Thomas, in noting the statement of Bayle, remarks, "Even supposing that his estimate is an exaggerated one, an idea of the frequency of the affection may be gathered from the fact of his venturing upon it."[1]

The age, race, and social condition of a patient occupy an important status in the consideration of this form of disease. We are justified in presuming that the occurrence of uterine fibroids is most frequent between the twentieth and thirtieth years of life. Certain it is that they most frequently announce their existence during the height rather than in either the early or late stages of menstrual activity. Scanzoni considers that "the lesion is most common between the ages of thirty-five and forty-five; at least the cases beyond these limits in which the disease has attained a development which permits it to be diagnosticated during life are relatively rare."[2] McClintock states, "This heterogeneous growth is met with at every age from twenty upward, but increasing in frequency up to forty-five or fifty." The earliest age at which a case came under his observation was twenty-three.[3] Of the thirty-nine cases recorded by Pollock but one was under the age of thirty years.[4] In the cases upon which Bayle bases his sweeping assertions all the women were over thirty-five years of age.[5] West records twenty-one cases out of eighty-seven in which the disease occurred between the ages of twenty and thirty years; and, having compared the statistical tables of Braum, Chairi, and Malgaigne with his own, remarks, "If, however, instead of taking the age at which the patient first applied at the hospital, we draw our conclusions, as we ought rather to do, from the period at which the symptoms characteristic of the disease first manifested themselves, it will be seen that fibrous tumors and fibrous polypi are affections incidental to the season of sexual vigor much oftener than to the period of its decline."[6]

We are, however, unable to confine exclusively the occurrence of these growths to the periods of life referred to; for Davis extracts from an early volume of the German Ephemerides the case of a child five years of age, who died, as was supposed, of retention of urine, but in whose uterus a calculus the size of a pigeon-egg was discovered.[7]

[1] Practical Treatise on the Diseases of Women, p. 418.
[2] Op. cit., p. 239.
[3] Op. cit., p. 110.
[4] London Lancet, February, 1852.
[5] Liverpool Medico-chirurgical Journal, vol. 1, p. 61.
[6] Op. cit.
[7] Obstetric Medicine, London, 1834, p. 667.

Race, according to the majority of observers, exercises a decided influence on the development of this form of disease. They are more frequently met with among the *blacks* and *mixed races* than among the *whites*, and it is asserted by authority that few autopsies of negro women are made without one or more of these growths being discovered. Goodell notes in this connection a point of interest, that while the negress is liable to fibroid growths of the uterus she is comparatively free from ovarian disease and cancerous affections.[1]

The development of uterine fibroids has been supposed to be influenced by the social condition of the subject. Bayle asserts that single women are more liable to this affection than those who are married.[2] Scanzoni's experience seemed to indicate that sterility had a certain influence in predisposing to the disease.[3] West is of the opinion that the development of uterine fibroids is not influenced by the non-exercise of the sexual functions.[4] McClintock writes, "A married or single life, sterility or fruitfulness, do not seem to have any influence in predisposing to the disease."[5] Goodell says, "Sexual intercourse always aggravates their symptoms, and marriage is pretty sure to start the growth of one hitherto dormant." Bergeret, of whose work the most charitable expression is one of regret at its translation, writes, "The sanguineous congestion resulting from repeated frauds, instead of causing a morbid flow through the natural passages, may determine the same accident in the walls of the uterus, and this may result in the fibrous tumors so common in the body of the uterus. Most of the women whom I have attended of this kind of disease have had fraudulent connections."[6]

A consideration of statistics will, in our opinion, lead to the conviction that it is among married women, or those subjected to frequent and prolific sexual intercourse, that this disease is most common; that it is the changes of the uterus incident to gestation that favor their development, rather than the congestions of uninterrupted menstruation or of non-fecundating sexual excitement.

Our knowledge of the causes which result in the formation and development of uterine fibroids is, to say the least, limited. Thomas in 1872 quotes the remark of Clarke in 1814, that nothing is known

[1] Philadelphia Medical Times, May, 1872.
[2] Liverpool Medico-chirurgical Journal.
[3] Op. cit., p. 239.
[4] Op. cit., p. 226.
[5] Op. cit., p. 110.
[6] Conjugal Onanism, p. 35.

respecting the cause of this disease as applicable to the present.[1] Meadows in 1873 follows upon nearly the same line. He says, "In regard to the causes of uterine fibroids we know no more, but certainly no less, of their origin than we do of the same or similar tumors in other parts of the body."[2] McClintock is of the opinion that a scrofulous diathesis is very favorable to their development.[3] Churchill, that they are more common in persons of the lymphatic temperament.[4] W. T. Jenks, of Philadelphia, reports several cases of uterine fibroids in which he found a blood-clot to be their nucleus.[5]

The etiology of uterine fibroids may be summed up as follows:

1. RACE: *the African or those of mixed blood being peculiarly liable.*

2. AGE: *the incidents of menstrual activity exercising a controlling influence.*

The congestions and extravasations of dymenorrhœa, the stretching and weakening of the uterine fibers by repeated pregnancies, and the various accidents of parturition, probably exercise a greater influence in the occurrence of these adventitious growths than do the favorite causes of some writers; i. e., *the congestions from sexual intercourse and uninterrupted menstruation in its various phases.*

Upon one point, however, the evidence at our command is more nearly unanimous. It is asserted that the presence of these uterine tumors exercises a decided influence upon fecundity. From their presence during the period of menstrual activity, and governed by the position which they occupy in the uterine structure, impregnation may be impossible, abortions may be frequent, and lastly fatal complications may arise during or after labor by which the lives of both mother and child may be placed in jeopardy.

Tanner was of the opinion that fibroids are a cause of abortion by impeding the expansion and growth of the uterine tissue.[6] West remarks, "Fibroid tumors of the uterus often render pregnancy, labor, and the puerperal state periods of great hazard; but it is easy to understand that when the growths proceed from the exterior of the

[1] Op. cit., p. 416.
[2] London Lancet, May 10, 1873.
[3] Op. cit., p. 111.
[4] On Diseases of Women, p. 248.
[5] Philadelphia Medical Times, May 1, 1872.
[6] Signs and Diseases of Pregnancy (London), p. 161.

womb they may not interfere with the mere term of utero-gestation."[1] Montgomery states "that, however large and numerous these tumors may happen to be, they do not always prevent conception; but they greatly disguise its results, and render its consequences much to be dreaded; though when of small size, few in number, and situated in the upper part of the organ, neither gestation nor delivery is necessarily affected by their presence."[2] He details the history of a lady who had two fibroids as large as walnuts on the anterior surface of the fundus uteri, whom he safely delivered from eight pregnancies; also two other cases complicated by fibroids in the same location (one as large as an orange) who were safely delivered—one lady in five, the other in three confinements. Dr. Eldridge recorded a case in which a fibrous tumor weighing two pounds was expelled thirty-eight days after the successful termination of a pregnancy.[3]

Uterine fibroids, sarcoma matricis, fleshy tubercle, subcartilaginous tumor, muscular tumor, hystereoma, as they were designated by the older writers,[4] the *fibroma* and *myoma* of Virchow and Klobe, and the *myo-fibromata* of Thomas, are firm, hard, unyielding tumors of irregular surface, varying in size from an almost impalpable atom to a mass of many pounds in weight.

It is asserted by the majority of authorities that tumors of this class are seldom solitary; but that the morbid action once having been instituted, an indefinite number usually result. Others assume that the cases of solitary and multiple tumors are equally divided. Billroth states that they are rather more frequently multiple than single."[5] Thomas possesses the uterus of a negress which contains thirty-five fibroids of every size, from a fetal head to that of a marble.[6] Scanzoni records a case in which the walls of the uterus contained twenty-seven fibroids, the largest being the size of a hen-egg, and the smallest that of a walnut.[7] Jones and Sieveking describe specimen No. 2,674 in the museum of the Royal College of Surgeons, London, as a uterus with eight or nine fibroids, varying from one to four

[1] Op. cit., p. 229.
[2] Exposition of the Signs and Symptoms of Pregnancy, p. 274.
[3] Boston Medical and Surgical Journal, February 2, 1848.
[4] Hunter, Baillie, Hooper, Davis.
[5] General Surgical Pathology, p. 569.
[6] Op. cit., p. 413.
[7] Op. cit., p. 234.

inches in diameter.[1] In the museum of the University of Louisville is the uterus of a negress, who died at about the fiftieth year from unknown causes, on which thirty-one fibroid tumors may be counted, the largest the size of an orange, the smallest not greater than the head of a common pin.

Such instances are, however, comparatively rare, for it has generally been found in these cases of multiple tumors that one alone attains to any considerable size; the others, if they grow at all, grow slowly, and almost invariably the disproportion in size is strikingly evident. It is also to be observed as a marked provision of nature that in the vast majority of multiple fibroids they are of that variety which during their existence rarely produce fatal complications.

Virchow withdraws uterine fibroids from the class of fibromata, and designates them myomata, the latter term being strictly indicative of their early origin, resulting, as is generally accepted, from a morbid tendency to grow of some portion or portions of the muscular substance of the uterus. A section examined under the microscope exhibits "the same structure that the walls of the hypertrophied uterus have, inasmuch as it consists not only of fibrous connective tissue and vessels, but also of muscular fiber-cells."[2] Billroth writes, "There can be no doubt that those of them which consist chiefly of connective tissue, such as old uterine fibroids, should be called fibromata; but the younger tumors of this variety, with the same appearance and consistence, show little connective tissue, but numerous spindle-shaped cells."[3]

Meadows affirms "that these tumors are not mere hypertrophies, but are distinct growths, having their origin in a degenerative process, and not in one of exaltation; that there are in addition to the muscular fiber-cells a considerable proportion of cellular elements. In some instances the latter largely predominate, and the whole appearance of the tumor is much the reverse of what one would be led to expect in a fibrous tumor."[4]

Paget thus describes a striking peculiarity of these growths: "Such tumors may resemble in their tissues the substance of the uterus itself,

[1] Manual of Pathological Anatomy (London), p. 672.
[2] Virchow's Cellular Pathology, p. 487.
[3] Op. cit., p. 565.
[4] London Lancet, May 10, 1873.

and so far as the structures formed in excess are concerned we might regard the tumor as the result of a hypertrophy not essentially different from that which at the same time and rate may take place in the uterine walls around it. But an essential difference is in this, the uterus in its growth around the tumor maintains a normal type, though excited to its growth, if we may so speak, by an abnormal stimulus. It exactly imitates in vascularity and muscular development the pregnant uterus, and may even acquire the like power, and at length by contractions like those of parturition may expel the tumor spontaneously separated. But the tumor imitates in its growth no natural shape or construction; the longer it continues the greater its deformity."[1]

In its growth a myoma is independent—that is, none of the tissues in which it is developed is included in the abnormal mass; but are displaced, pressed out of the way by the new growth, which subsists and maintains its connections with the uterine walls by but few and delicate blood-vessels, which pierce its areolar capsule. The degree of vitality is low; indeed by the older writers it was contended that no vascular connections existed between the morbid mass and the uterine wall in or on which it grows.

Fibroid tumors and *fibrous polypi* of the uterus should never be confounded, as they seem to be by some authors. Paget defines the distinction, "The fibrous polypi of the uterus, more properly so called, are continuous outgrowths of and from the substance of the uterus. . . . . The fibrous tumors are discontinuous growths of similar tissue in or near, not of, the substance of the uterus."[2]

The position occupied by a myoma and the amount of uterine territory invaded by the growth present questions of vital interest, influencing not only the diagnosis but the prognosis in the case. Certain peculiarities have been observed by gynecologists, which may be briefly stated as follows: A myoma is rarely developed in the cervix uteri. By some authors it is stated that the development of even a slightly voluminous tumor in such location would be a very exceptional occurrence. By many the anterior wall is considered to be an unusual location; while others maintain that they are found with equal frequency in the different regions of the fundus and body of the uterus.

[1] Surgical Pathology, p. 338. [2] Surgical Pathology, p. 422.

From their location and degree of development, uterine fibroids have been divided into three distinct classes.

(*a*) *Subperitoneal or extra uterine*, which project from the uterus and are enveloped by the peritonæum;

(*b*) *Parietal or intra-mural*, which are covered upon all sides by the uterine tissue;

(*c*) *Intra-mural or submucous*, which occupy more or less of the uterine cavity, and enveloped by the mucous membrane.

To this classification modern gynecologists add—

(*d*) *Recurrent fibroids;* that variety which grow from the uterine mucous surface, and which are redeveloped as often as they may be removed.

In each of these varieties the symptoms, although developing upon the same general plan, vary both in their sequence and intensity. Menstrual disorders are almost invariably the primary symptoms. Months and even years may pass during which the intermenstrual periods become shorter, and the amount of the menstrual discharge increased. Dysmenorrhœa and a copious leucorrhœa follow. As the tumor increases in size the discomforts of pregnancy are added, and with them almost invariably reflex uterine symptoms. On the other hand, without the occurrence of any such symptoms, the patient may discover an abdominal tumor of whose presence she was previously unaware.

In thirty-two of the ninety-six cases tabulated by Dr. West the symptoms came on suddenly in patients who had previously imagined themselves quite well. In eleven of these cases it was with hemorrhage; in five it was with an inability to void the urine; in five it was with intense abdominal pain; in eleven it was the accidental discovery of a tumor in the abdomen.[1]

In the primary symptoms some peculiarities are offered. In menorrhagia the flow of blood is intermingled with clots of greater or less size, but among them no shreds of membrane can be distinguished. The hemorrhage may appear during the intermenstrual period, and may become so constant that the period of menstruation is only marked by an increase in the hemorrhage. The pains described at first as "small, pricking, or tearing" gradually assume the character of those of parturition. At times these demonstrations

[1] Op. cit., p. 229.

become painfully acute. The character of the pain and the amount of the discharge is stated by Meadows to be an index to the position occupied by the tumor. Great pain indicates that the location is near to the peritoneal surface; excessive discharges near to the mucus. A small tumor on the anterior wall will occasion more pain than one situated posteriorly, and the nearer the tumor is to the fundus the greater will be the pain; with the single exception of small tumors situated near the internal os uteri, which last occasion distressing dysmenorrhœa.[1] By McClintock this pain is referred to the uterus and not to the tumor, the latter being in his opinion utterly devoid of sensation.[2]

The leucorrheal discharge, with which in the early stages of the disease the genitals are copiously bathed, is at first entirely mucous; but as the disease advances the discharge becomes thinner, and at times watery.

The discomforts of pregnancy referred to are those caused by mechanical pressure. The patient complains of weight and fullness in the pelvis. She is tormented at times with a constant desire at micturition, and suffers from constipation. Hemorrhoids, varices, and œdema of the labia and lower extremities are frequent accompaniments. The reflex symptoms consist of nausea, vomiting, cephalalgia, cardialgia, and in rare cases eclampsia.

In each of the three varieties of uterine fibroids peculiarities of symptoms are described which demand especial consideration.

(*a*) *Subperitoneal or Extra-uterine.*—Myomata of this class are found to be singularly free from the majority of the symptoms enumerated. They grow more rapidly, attain a greater size, and cause greater physical discomfort than those of the other varieties. They are attended with a marked symptom, in a decided diminution of the menstrual flow. This peculiarity is noted by numerous authors, and is especially elaborated by West and Meadows.[3]

The uterus is hypertrophied, although not to the degree that it will be found in the other varieties. But little if any increase will be found in the length of the uterine cavity, and in the majority of instances the entire outline of the tumor may be traced through the abdominal walls.

[1] London Lancet, May 17, 1873. [2] Op. cit., p. 123.
[3] London Lancet, May 17, 1873, p. 689.

(*b*) *Parietal or Intra-mural.*—In tumors of this variety the uterine cavity is lengthened and rendered tortuous by the bulging in of the wall containing the growth. The weight of the uterus is increased, while its mobility is diminished. As the tumor increases in size the transverse diameters of the uterus are enlarged, the cervix is shortened, and the os may be sufficiently dilated to admit of the introduction of the index finger.

Uterine displacements, to a greater or less degree, are invariably produced, governed by the location of the tumor and the size it may attain. Thus we may find the uterus descending deeply into the pelvic cavity, or pressed strongly against the sides of the pelvis, or escaping through the superior strait, the vaginal canal is placed upon the stretch. The uterine functions are impaired, the initial symptoms are early developed, conception rarely occurs, or the patient, becoming pregnant, aborts at an early month. Myomata of this class may become, from uterine action alone and unaided, either extra- or intra-uterine; in other words, a process of spontaneous enucleation is accomplished. This action is ascribed to "the continuous peristaltic action of the uterine walls."

(*c*) *Intra-uterine or Submucous.*—The symptoms which have been enumerated are present, aggravated and imperative in their demands upon the vital powers of the patient. Submucous fibroids are almost invariably attended by enormous hemorrhages at the menstrual periods, and during the interval of menstruation there is constant loss of blood. The patient will suffer vastly from the expulsive efforts to which the uterus is excited by the growth, and all of the discomforts and constitutional disturbances which attend myomata of the preceding varieties will be intensified.

(*d*) *Recurrent fibroids of the uterus* are identical with similar growths in other portions of the body. They rapidly develop all the symptoms of the submucous variety. It is stated that they are attended with no special manifestations of pain. In this situation, as in other structures, the capsule of the tumor is liable to rupture, and a fungoid growth protrudes. Removal of this (fortunately rare) form of the disease is invariably followed by its redevelopment.

In the study of uterine fibroids it is well to dwell upon the points of differential diagnosis between them and various affections with

which at first sight they may be confounded. Too much stress can not be laid upon this point; it not infrequently happening that even after repeated examinations and prolonged observation errors of diagnosis are made. Uterine fibroids may be mistaken for, or the converse may occur—

1. *Uterine Polypi*, whose symptoms strongly assimilate the myoma of the submucous variety. Kirwisch notes that in uterine polypi the metrorrhagia is invariably preceded by a complete menstrual cessation of from six to twelve weeks, and that the hemorrhage is always accompanied by violent contractions and intense pain. In a case of polypus the os uteri is sensibly dilated at a much earlier date than it is in fibroid tumors. Polypi rarely attain any considerable size.

2. *Chronic Engorgement of the Uterus.*—A careful study of the symptoms presented is necessary to differentiate, and it is only by a prudent selection and rejection that a correct diagnosis may be established. It is particularly to be noted that the menstrual disturbances differ widely. In chronic engorgement "the insufficient menstruation, *with dysmenorrheal expulsion* of a false decidua, the result of continued hyperæmia of the uterine mucous membrane, and an invariable painful congestion of the ovaries,"[1] presents a marked outline of the disease.

3. *Peri-uterine Cellulitis or Abscess.*—A tumor from this cause is immovable, exceedingly sensitive, and its presence is accompanied by great constitutional disturbance.

4. *Pelvic Hematocele.*—Intense constitutional disturbance is a primary symptom. Meadows notes as of value in the differential diagnosis that "a hematocele varies as to its consistency with time. To the touch at first it is soft, then doughy, lastly it becomes hard and solid, and gradually decreases in size."[2]

5. *Uterine Flexion.*—A small fibroid tumor may be mistaken for either of the malpositions of this class, or a flexion may itself be mistaken for a myoma. A careful use of the sound will afford a true and reliable method of differentiating.

6. *Ovarian Tumor.*—To diagnose a uterine fibroid from an ovarian umor in some instances becomes utterly impossible without resorting to an explorative incision through the abdominal wall. Meadows lays down as a rule in differentiating in such cases "the peculiar elastic

[1] Scanzoni, op. cit.

[2] London Lancet, May 17, 1873.

though firm and tense, feel which the ovarian tumor presents to the hard, solid feel of a fibroid." The prominent diagnostic differences may be summed up as follows:

OVARIAN TUMOR.	UTERINE TUMOR.
1. No menstrual disorder or uterine discharges.	1. Decided menstrual disturbance and profuse discharges.
2. Of rapid growth, producing great constitutional disturbance.	2. Of slow growth, and the constitutional effects are tardy in appearing.
3. Situated more on one side than the other; rarely movable; fluctuating, smooth, elastic, but tense.	3. Located centrally; movable, non-fluctuating, firm, hard, nodular.
4. External manipulation produces no change of the uterine position.	4. External manipulation produces decided changes in the position of the uterus.
5. Auscultation gives no sound.	5. Auscultation almost invariably reveals a distinct bruit.

7. *Pregnancy.*—Care should always be had in differentiating under this head. The similarity presented by the reflex uterine symptoms, the identity of the placental bruit, renders it not surprising that errors of diagnosis should be made. Davis relates the case in which a young woman experienced a sudden cessation of the menses, and as she confessed to an amour, pregnancy was diagnosed. Apparently all the symptoms were present; but the abdominal enlargement continued beyond the ninth month, and at the termination of the eighteenth month the patient died, undelivered. The autopsy disclosed an exceedingly large fibroid tumor of the uterus.[1] When called upon to diagnose in such a case it is well to bear in mind the tragic story told by Bedford,[2] of a young life blasted by a professional diagnostic error, which terminated in foul slander and a broken-hearted death-bed, and err, if err we must, upon the side of mercy.

8. *Fecal Impaction.*—In this abnormal condition there is presented intestinal disorder and no menstrual disturbance. External manipulation of the abdominal tumor produces no uterine change as to position. Meadows relates a case in which such an accumulation gave rise to a condition analogous to that of a fibroid tumor.

9. *Vesical Calculus* may be mistaken for a fibroid of the anterior wall of the uterus. The absence of all uterine symptoms beyond

[1] Op. cit., p. 663.

[2] Clinical Lectures on the Diseases of Women and Children, p. 50.

those of weight, frequent and painful micturition, should lead to a rigid explorative examination.

10. *Uterine Cancer.*—The rapid progress of the disease and the characteristic fetor of the discharges are pathognomonic. Meadows relates a case in which a submucous fibroid, which had become pedunculated and partly protruded through the os uteri, was diagnosed as an epithelioma. A more careful examination determined that the tumor, constricted by the cervix, had at its lower portion taken on a sloughing process, which gave rise to a ragged, irregular mass occupying the site of the cervix uteri, and to an intensely fetid discharge.[1]

With all the aids which science has placed at our disposal for the investigation of obscure cases, the difficulty in differentiating between uterine fibroids and some of the diseases noted is so great that errors may occur in some cases unless resort is had (*dernier ressort*) to examination by means of the explorative incision, or to the artificial dilatation of the anus and rectum. The last-named procedure, instituted by Simon of Heidelberg,[2] affords a valuable means for establishing a true diagnosis. This method, resorted to with delicacy and care, is by no means the medical atrocity[3] as by some writers it has been styled; especially as it affords unfortunate females a means of vindicating their chastity should it be called in question by a careless or hasty diagnosis.

The opinions of eminent gynecologists expressed in the prognosis of this class of disease may be summed up as follows: Uterine fibroids undoubtedly must be classed as benign or non-malignant growths. They rarely make rapid progress; seldom induce symptoms that indicate a fatal termination. The symptoms, even when severe, may in the majority of instances be controlled. After the menopause the bulk of the tumor will not increase; on the contrary, it is apt to become diminished. As a rule, the prognosis is not unfavorable.

By some authors, as Ashwell, Sir James Y. Simpson, and Atlee, of Philadelphia, it is held that fibroid tumors are or may become the seats of cancerous degeneration; but this theory undoubtedly arises from the fact that the two diseases may occur simultaneously, or that a cancerous growth may take place upon the surface of the tumor.

[1] London Lancet, May 17, 1873.
[2] American Journal of Medical Sciences, April, 1873, p. 548.
[3] Philadelphia Medical Times, December 27, 1873, p. 203.

In entering upon the study of the various methods which have been proposed in the treatment of uterine fibroids, the most natural classification will be—

1. *The efforts of nature to effect a cure;*
2. *Treatment by palliative measures;*
3. *Treatment by surgical measures.*

1. THE EFFORTS OF NATURE TO EFFECT A CURE.—Myomata may during the life of the patient undergo various alterations which are characterized by Thomas[1] as diseases to which they are liable, and by Billroth[2] as anatomical metamorphoses. These efforts or changes again demand a classification, and they are generally treated of under the following heads:

(1) *Separation of the pedicle;*
(2) *Atrophy or absorption;*
(3) *Direct expulsion of the tumor;*
(4) *Disintegration;*
(5) *Calcareous transformation.*

(1) *Separation of the Pedicle.*—A fibroid of the extra-uterine class, favored by its position and assisted by the contractions of the muscular fibers behind and around them, not infrequently are extruded from the uterus, to which they remain attached by a pedicle which may become so extenuated that but slight force may cause a total separation of the tumor from the uterus. The tumor may now maintain an independent existence, or may be transplanted upon some other surface. The same remarks apply to tumors of the submucous variety; they may be expelled by uterine contractions, and in rare cases a separation of the pedicle may occur.

(2) *Atrophy or Absorption.*—The growth of myomata, it is well known, ends at the menopause, after which period the tumor not only ceases to grow, but in the majority of cases becomes atrophied. Occasionally a cure is effected by means of a slow process of absorption. One of the most interesting cases on record of this rather rare occurrence is that reported by Kidd, of Dublin, as follows: "In 1852 an unmarried lady was the subject of a subperitoneal fibrous tumor of the uterus the size of a goose-egg. In 1859 the abdomen was as large as at the seventh month of pregnancy, and until 1863 the patient

[1] Op. cit., p. 413. [2] Op. cit., p. 566.

suffered frightfully from all the mechanical inconvenience of this large mass, as well as from the reflex symptoms. The pain was frightful; at one time the pressure of the tumor threatened to occlude the rectum; but in 1863, during an irregular menstruation, she began to pass 'flesh-like masses' which were supposed to have been coagula. The menstruation soon ceased, the abdomen gradually diminished in size, the pains and sickness were arrested, and the abdominal tumor disappeared without its departure being in any way noticed, except from the diminution in size, which was so gradual as only to be known by the result and not by the process. In 1867 no trace of the tumor could be found."[1]

(3) *Direct expulsion of the Tumor.*—It occasionally happens that a tumor of the intra-mural class may, in consequence of the suppuration and decomposition of the tissue which envelops it, become detached from the uterine wall, and, having fallen into the cavity of the uterus, be expelled by the contractions of that organ. For an illustration we are again indebted to Dr. Kidd: "A lady having placed herself under treatment, a considerable tumor was diagnosed in the interior of the uterus. An appointment was made for operation, but it was unavoidably postponed. The night of the postponement she had a rigor; the next day there was excessive constitutional disturbance, which continued for upward of a fortnight, when a fibroid was expelled per vagina."[2]

(4) *Disintegration.*—As a result of inflammatory action the myoma may be deprived of its nutrition, and a disintegration of its substance may result. From the same cause the mass may be the seat of collections of pus, or of purulent, watery, or sanguineous fluids, or gangrenous degeneration may occur. An illustration will be found in the well-known case of Marion Sims, in which he evacuated more than twenty ounces of a colored serum from a fibroid occupying the entire posterior wall of a uterus.[3] Gardner has recorded cases in which inflammation of the tumor ended in suppuration, this resulting from incidents attendant upon gestation.[4] Thomas describes an apoplexy of the mass resulting from the rupture of one or more of the delicate blood-vessels with which it is supplied.[5] Sir James Clarke records "the case of a woman twenty-eight years of age who was the

[1] Dublin Journal of Medical Science, August, 1872. [2] *Ibid.*
[3] Clinical Notes on Uterine Surgery, p. 108.
[4] Scanzoni, op. cit., p. 238 (note). [5] Op. cit., p. 486.

subject of a tumor of the fundus the size of an orange. From this tumor she had experienced no pain, but a rather profuse menorrhagia. Sexual intercourse caused extreme pain, and some weeks after marriage large masses were passed by the vagina. The case recovered, became pregnant, and was safely delivered at full term."[1] In this case undoubtedly the irritation induced by marriage caused the death of the tumor. The cavities caused by the process of disintegration noted are occasionally found empty, leaving open the supposition that the fluid has been absorbed.

(5) *Calcareous Transformation.*—It is by no means rare to find that by a process of calcification, or even of true ossification,[2] the growth of a myoma is arrested. Occasionally the mass thus changed becomes detached and is discharged from the vagina, which fact undoubtedly gave rise to the uterine calculi of the older writers; but as early as 1787 Dr. Baillie announced that these calcareous concretions originated as fibroid tumors.[3]

That a true ossification may occur in a myoma is denied by the majority of authorities. Paget describes the changes which occur to "a calcareous degeneration consisting in an amphorous and disorderly deposit of the salts of lime and other bases in combination with or in the place of the fibrous tissue."[4] Meadows expresses strongly the opinion that this calcareous deposit is the result of or a consequence upon the atrophy of the tumor.[5] In the majority of instances the process of calcification is within the substance of the tumor; but instances are recorded in which the deposit has been upon the exterior, encasing the tumor in a defined shell.

Many and interesting cases are recorded of this transformation. Davis notes several cases recorded by the fathers, the most notable being a case described by Hippocrates, in which, after violent expulsive pains, a calculus the size of a "spindle-ball" was found in the vagina; a case reported by Ambrose Paré, of a nun fifty years of age, who, after months of severe uterine pain, expelled from the uterus a calculus the size of a duck-egg; and a case of Louis, of a patient who died from a pleurisy, in the substance of whose uterus were thirty calculi, the smallest the size of an almond.[6] Jones and Sieveking report the interesting case of an old lady who died at the age of seventy-two

[1] McClintock, op. cit., p. 113. [2] Billroth, op. cit., p. 566. [3] Lee.
[4] Surgical Pathology, p. 428.. [5] London Lancet, July 5, 1873. [6] Op. cit., p. 666.

years, in whose uterus was found a tumor weighing five pounds, and as hard as marble.[1]

This process of calcification, although it may be looked upon as an effort of nature to arrest the growth of the tumor, at times induces complications dangerous to the patient. McClintock, under the head of "the spontaneous elimination of uterine tumors,"[2] cites the following cases: 1. Turner relates a case in which a large calcified tumor attached to the back of the uterus caused death by compression and rupture of a fold of the ilium, consequent upon a fall on the pavement. 2. Matthews Duncan records the case of a patient who died of peritonitis, whose uterus contained two calcified tumors. Two holes were found in the peritonæum, made apparently by the tilting upward of two thick scales of the tumor. Fleming reports a case in which a calcified tumor springing from the anterior wall of the uterus had made its way by ulceration into the bladder, producing all the symptoms of vesical calculus, and in which some fragments of the tumor had become detached and were found in the cavity of the bladder.

2. TREATMENT BY PALLIATIVE MEASURES.—By such treatment we understand all therapeutic, surgical, and mechanical measures which may be adopted to arrest hemorrhage, allay pain, check the growth of the tumor, or lessen the discomforts arising from the bulk and weight as well as the position which the tumor may assume.

To arrest hemorrhage it is recommended that prior to each menstrual period some precautionary treatment be adopted. Absolute rest in the recumbent posture should be rigidly enjoined. A saline cathartic may be exhibited for the relief of the engorged pelvic viscera. On the appearance of the hemorrhage ergot should be administered in doses the amount and frequency of which should be decided by the urgency of the symptoms. Warm applications to the spine and iced enemata are recommended by Scanzoni.[3] The hemostatics upon which McClintock relies are gallic acid, alum, tincture of Indian hemp, and mercury.[4] Ergot and gallic acid in large doses singly and combined are recommended by Goodell.[5] Meadows found the most efficient remedies to be the ethereal peracetate of iron, the acetate of lead, and ergot.[6]

[1] Op. cit., p. 675. [2] Dublin Quarterly Journal, February, 1868, p. 20.
[3] Op. cit. [4] Op. cit., pp. 144, 145.
[5] Medical and Surgical Reporter, February, 1874.
[6] London Lancet, July 12, 1873.

By the majority of authorities ergot is recommended as the main and in reality the only hemostatic upon which dependence can be placed. It should be exhibited both by the mouth and hypodermically. From this opinion some authors dissent, contending that many cases are met with in which ergot may be administered without effect other than an increase in the hemorrhage. This opinion, however, is undoubtedly based upon cases of intra-uterine tumors, in which the ergot, by exciting the muscular contractions of the uterus, may occasionally induce increase of the hemorrhage. By the gentlemen who deny the power of ergot mercury is vastly lauded.

Therapeutic measures failing to arrest the hemorrhage, three expedients remain, one or all of which should unfailingly be resorted to.

(1) *The Tampon.*—It is strongly advised, and rationally, to lose no time in plugging the vagina with soft, dry sponges, or if they may not readily be obtained, with strips of linen, lint, or cotton. Wherever it is practicable, the speculum having been introduced, the cervix should be steadied with the vulcella, and the largest possible tent inserted within the os, or the cervical canal should be packed with strips of lint saturated with a styptic solution.

(2) *Styptic Injections to the Cavity of the Uterus.*—Many medicated solutions have been recommended, such as solutions of the salt of Monsel, tincture of iodine, nitric acid, and solid nitrate of silver. Savage uses a solution of iodine, iodide of potash, alcohol, and water, and claims not only perfect hemostatic power, but a specific influence on the tumor. Routh, Duncan, Barnes, and others advocate the use of a solution of the perchloride of iron. The procedure of Duncan is worthy of careful consideration. He writes, "After the length and direction of the uterus has been ascertained by means of the ordinary sound a hollow one is passed into the organ, and a syringe containing the solution—about one drachm—is fitted closely into the orifice at the proximal end of the probe, and the contents gently thrown in." We are able to offer testimony as to the efficacy of a strong solution of Monsel's salt in arresting a uterine hemorrhage which had reduced the patient to extremis; nor in this case did the coagula cause the "very severe forcing pains" on which Sims bases his objection to the use of solutions of iron.

(3) *Free and complete Incision of the Cervix Uteri.*—By Baker Brown, Nélaton, and McClintock the almost simultaneous discovery

was made that whenever a permanent dilatation of the cervix uteri was effected by means of free incisions the hemorrhage resulting from the presence of uterine fibroids almost invariably ceases.[1] In some cases, despite this operation, the flooding is re-established, and Atlee recommends an incision through the capsule and into the substance of the tumor.[2] This procedure has been found almost invariably successful; but the credit of success alone can be given to Atlee; for as early as 1831 Davis made three mechanical attempts by means of incisions to dislodge a uterine fibroid, but he was unsuccessful, save that the patient "ceased to be subject to hemorrhages of any considerable amount."[3]

During the intermenstrual period it is advisable to adopt such rational treatment as may not only replace the blood lost, but if possible lessen the hemorrhagic dangers of the next period. The continued use of ergot and iron at once is suggested. Mental and physical quietude are essentially necessary. Meadows found that the prolonged use of the chloride of calcium was followed by a marked diminution in the amount of the hemorrhage. *Cannabis indica, digitalis, arsenic, ipecacuanha, opium, mercury, infusion of vinca major, muriate of ammonia, bromide of potash, phosphorus,* and the *continued galvanic current* have all distinguished advocates, who have hoped not only to arrest the hemorrhage, but to exert a specific effect on the bulk of the growth. Goodell recommends equal parts of the *muriate tincture of iron,* dilute *phosphoric acid,* and *fluid extract of ergot* in drachm-doses. Dr. Protheroe Smith strongly recommends the combination of *ergot* with *borax.*

Full baths of natural or artificial sea-water or the water of Kreuznach, frictions with *iodine* or *bromine,* the applications of compresses saturated with very hot water, local blood-letting to diminish congestion, or the plan of Rigby of injecting into the uterine cavity a mixture of mercurial ointment and iodide of potassium, are of importance.

To allay pain opium or some of its salts must be relied upon. It is suggested that they always be exhibited hypodermically. Goodell extols the effect obtained from the use of cannabis indica, and cautions against the use of chloral hydrate, which in his opinion induces hemorrhage in these cases.

[1] McClintock, op. cit., p. 149.

[2] Trans. Am. Med. Association, vol. 6, 1853, p. 558. [3] Op. cit., p. 657.

To check the growth of the tumor, each of the therapeutic agents which have already been enumerated have been at one time or another in vogue. Failure attended the use of each, and when hope was well-nigh exhausted a new era opened, and ergot in the hands of Hilderbrandt marked the dawning. The efficacy of this procedure is now so well known, and the results originally claimed have been verified in so many hands, that any extended reference to the procedure is unnecessary. Bengelsdorf concludes from his recent experiments that the influence of ergot on these tumors when exhibited hypodermically is confined exclusively to the period of menstrual activity, and that after the menopause no diminution in bulk will follow the most prolonged use. This conclusion, however, is yet to be verified.

In this connection we would state that we have many times used the fluid extract of ergot without dilution in the treatment of uterine fibroids, and without the least ill effect. Indeed there is not even the pain produced which invariably follows the introduction of glycerine below the skin.

The mechanical means by which the discomforts arising from the bulk and weight of the tumor, as well as the position which it may assume, may be modified are worthy of careful consideration. To this point as early as 1814 Sir Charles Clarke called attention, and upon these means at one time were the main dependence in treatment. When the tumor has not attained a sufficient size to lift the uterine mass above the brim of the pelvis many of the discomforts may be relieved by the use of pessaries. When the tumor has escaped into the abdominal cavity, and the pendulous abdomen becomes a source of vast discomfort, the mechanical support of Banning will meet the indications. When the growth of the tumor is confined to the pelvis, and becomes so great as to interfere with the pelvic viscera, it becomes necessary to dislodge it, for which purpose Barnes's bags will be of advantage.

3. THE TREATMENT BY SURGICAL MEANS.—By which treatment we understand any efforts that may be made tending to the radical destruction of the morbid growth. It is advanced as a fundamental axiom that surgical procedures should be resorted to only under two circumstances. 1. *When the growth is so situated as to render its removal not absolutely fatal to the patient.* 2. *When the disease is threatening the patient's life.*

The various surgical procedures may be advantageously studied under the arrangement adopted by Thomas:

(1) *Excision;*
(2) *Ecrasement;*
(3) *Enucleation;*
(4) *Sloughing;*
(5) *Gastrotomy.*

(1) *Excision,* which is applicable only to small fibroids which may be within reach after dilatation of the cervix.

(2) *Ecrasement,* which is applicable to all cases in which it may be possible to surround the entire or a large portion of the tumor. In the latter case the operation must be repeated until the entire mass is removed and the pedicle is reached.

(3) *Enucleation.*—The honor of having instituted this method of dealing with fibroids of the uterus must be equally shared by Velpeau, Amusat, and Atlee; but to Matthews Duncan we are indebted for the study which has done so much for the development of the operation. It is recommended, by the majority of authorities, as more prudent in tumors of large growth to effect but a partial enucleation by force, and to depend upon the efforts of the uterus, aided by ergot, to finally dislodge the mass. Duncan recommends evulsion in cases in which spontaneous enucleation has been already begun. Mr. John Scott, surgeon to the Hospital for Women, Soho, London, recommends the advisability of completing the removal of the tumor at the primary operation, in view of the rapidity with which in some cases fresh adhesions are formed. He relates the successful termination of an operation by torsion applied to the ultimate attachment of the tumor.[1]

In all cases of enucleation it is of importance to postpone the final operation upon the fibroid until the incised cervical walls have completely healed, thus lessening the risks of the absorption of the purulent discharges which must result from the subsequent operation.

(4) *Sloughing.*—It has been proposed to imitate nature and to establish inflammatory action in these tumors with the hope that from the partial disintegration of the mass a spontaneous enucleation would result. Sir James Y. Simpson formed an escar in the fibroid by means of caustic potash. Baker Brown gouged a deep circular pit into the substance of the tumor, and plugged the cavity thus formed with lint

[1] London Lancet, December 20, 1873.

dipped in olive-oil. Greenhalgh plunged the actual cautery to the depth of an inch into the mass. The result obtained by each observer was a gradual protrusion of the bulk of the tumor through the opening thus made in its capsule.

(5) *Gastrotomy.*—The removal of subperitoneal fibroids when they are pedunculated by the abdominal section presents no greater dangers than those incurred in the performance of ovariotomy. But when the tumor is closely attached to the uterus or imbedded in its walls the operation can only be justified—1. *When serious complications are produced by the great size of the tumor;* 2. *When all other efforts to preserve the life of the patient have failed.*

Gastrotomy for the removal of uterine fibroids has been opposed by a majority of gynecologists with, if possible, a greater intensity than was ovariotomy in the early days of that operation. So violently at one time did the discussion rage that the doors of professional courtesy were closed upon the advocates of the operation; and in 1872 the Committee of the Academy of Medicine, Paris, condemned the procedure, reporting that "the extirpation of a uterine tumor is always a serious matter; the uncertainty that exists of completing the operation, the risk of fatal hemorrhage, the nervous shock, peritonitis, and secondary hemorrhage;" and they concluded by asserting that "the success obtained by some surgeons proved nothing."

Thomas lays down as an axiom that "no operator should undertake gastrotomy for uterine neoplasms without being prepared, if necessary, to remove the uterus with the tumor; for sometimes the connection is so intimate that an exact localization of the tumor is out of the power of the most skillful diagnostician." The mortality from this operation, however, as shown by the present state of statistical tables, offers scarcely a forlorn hope to the patient. Of thirty-six cases in which the uterus was removed by gastrotomy but seven recovered; and of the recoveries five are credited to American surgeons.

Although the percentage of deaths after these operations from shock, hemorrhage, peritonitis, and septicæmia are so great, there is scarcely a doubt that the expectations of Storer and Thomas will be realized, and that from "improved methods of hemostasis and cleansing of the peritonæum"—of the latter, in our opinion, drainage through Douglass's cul de sac will be most prominent—the risks of the operation will be reduced to those of ovariotomy.

There remains for consideration the management of pregnancy complicated by uterine fibroids.

We have already seen that in the subperitoneal variety, especially those which have become pedunculated and have escaped into the abdominal cavity, the uterus is affected but to a slight degree, and that rarely beyond a hypertrophy of its tissue. We find therefore but little inconvenience arising from its presence during pregnancy beyond that produced by increased weight. Indeed as gestation advances the increased pressure upon the tumor may result in its absorption. But very different is the case when a pedunculated tumor becomes impacted during gestation in the recto-uterine space; then labor will be attended with the most frightful consequences.

The intra-mural and intra-uterine varieties almost invariably terminate a pregnancy by an early abortion; indeed some authors are of opinion that the presence of such a tumor is an impediment to conception. Cazeaux admits that tumors of this variety may exert an injurious influence upon the course of gestation, and become a cause of abortion when they are of large size, but denies that they have any effect when small. At the same time he writes, "The physiological evolution of pregnancy may accelerate wonderfully the increase of the pathological tumor, which may continue and even increase after delivery in some cases, while in others there is a notable diminution and even disappearance."[1]

The dangers which surround a pregnant woman who is the subject of myomata may well be noted for earnest study. Ashwell has demonstrated that the presence of the contents of a gravid uterus upon a fibroid in the uterine wall may set up an inflammation in the tumor so frightful as to result in the death of the patient. A myoma from its location may offer such obstruction as to make a labor either difficult, dangerous, or impossible. The presence of the tumor in the uterine wall may seriously interfere with the expulsive force of the organ, or from the resistance which it opposes to muscular contractions may cause a rupture of the uterine tissue. The tumor may be crushed or bruised during the expulsive efforts of the uterus, from which profuse hemorrhage may occur during and after delivery. From the bruising which the tumor will almost inevitably receive during the progress of a labor a fatal peritonitis may occur, or degeneration of the mass may

[1] Theoretical and Practical Treatise on Midwifery, p. 372.

develop septicæmia. A uterine fibroid may cause the retention of the placenta and membranes, the removal of which may place the patient's life in danger from the excessive hemorrhage which inevitably follows. A fibroid tumor may, from the irritation produced by its presence, induce the most exhausting "after-pains" in a labor which otherwise has terminated without complications.

When a female in whose case a uterine fibroid has been clearly diagnosticated becomes pregnant, what course is to be pursued? The injunction against coitus had certainly been issued by the medical attendant, but experience shows that there is scarcely a disease formidable or loathsome enough to prevent sexual intercourse. It is well to order that "unmastered importunity and too submissive affection must be met by separate beds and by uncommunicating rooms;" but the "too submissive affection" will always be displayed, attended though it be with "pain of body and anguish of mind" that entitles the devoted wife to a martyr's crown.

It may be safe to allow a pregnancy to advance in a case in which the tumor of the uterus is without doubt diagnosed as of the extra uterine variety, providing always that it is the abdominal and not the pelvic cavity which is invaded by the growth. But even in such cases eternal vigilance must be the price paid for the safety of the patient, and at the seventh or eighth month, although all may have progressed most favorably, the question of the necessity for a premature labor should receive careful attention.

When a myoma of either the intra-mural or intra-uterine varieties, no matter what may be its size or situation, is complicated by pregnancy, our opinion is strongly in favor of inducing that result to which we have seen nature so frequently direct her efforts. It is safe to assert that the vast majority of gynecologists concur in such conclusion; but upon this subject, as upon all others, dissenting voices are heard. Some practitioners prefer to expose the woman to all the dangers of the puerperal state, when complicated by the existence of such tumors, rather than destroy an organism upon which the light and breath of life has not yet come. Others, trusting and hoping in the slim chance which absorption may afford their patients, or that perchance the delivery may be safely effected, allow the pregnancy to proceed, not infrequently awakening from their delusion to the vivid horrors of such a parturition.

In a careful reading of the literature on this subject, with special reference to collating experiences upon the management of a labor complicated as described, nothing has been found which for conciseness and practicability surpasses that of the Clinical Lectures of Goodell, to which reference has already been made. We quote in detail:

"In all cases of foreseen obstruction from this cause, if called in soon enough, your duty is clearly to induce labor at as early a period of gestation as the necessities of the case may demand. If these are not urgent, stave off the operation until viability is reached. On the other hand, keep no terms with a fetus that threatens the life of its mother. But should labor at term have set in before you are summoned, no one plan of treatment can be laid down. The occasion will exact all your pluck and skill. If the tumor is movable, push it up out of the way, and in order to prevent it from falling back at once apply the forceps.

"If the tumor can not be dislodged, deliver either by the forceps or by version; by so doing you save the woman's forces and lessen the risks. If septic, reduce the bulk of the tumor by the trocar. If within easy reach and wholly in front of the child's head, attempts at enucleation may be made. Craniotomy will often be demanded, and whenever the pelvic inlet is reduced to a mere chink there will be no alternative but the cesarian section, an operation under such circumstances almost necessarily fatal from hemorrhage.

"Whenever you feel convinced that the child can not be born alive perforate and crush its head early, so as to diminish the chances of injury to the tumor. Whenever you are in doubt as to this give the mother and not the child the benefit of the doubt. Should post-partum hemorrhage occur, ply your patient with large doses of ergot and swab out the womb with Monsel's solution."

The foregoing pages have been prepared and are submitted not as a treatise, but as a study, in which the attempt alone is made of condensing the rays which the light of experience and observation have thrown upon a most interesting form of disease.

REPORT ON SURGERY.

BY R. F. LOGAN, M. D.

MR. PRESIDENT: In the discharge of the duty incumbent upon me as chairman of the Committee on Surgery I shall endeavor to review some of the most important advances recently made in the progress of our art, and also to notice a few points in surgical practice which the experience of another year has thrown much light upon.

ANÆSTHETICS.

Ether, chloroform, and bichloride of methylene are the only agents which, so far, have been used to any extent for anæsthetic purposes. Of these agents it may be stated, first, that neither of them is absolutely free from danger; second, that ether is the safest of them, and that chloroform is the most dangerous. So far as statistics have been compiled the ratio of mortality from the inhalation of these different anæsthetics is as follows:

Ether—One death in 23,204 administrations.
Chloroform—One death in 2,872 administrations.
Ether and chloroform mixed—One death in 5,888 administrations.
Bichloride of methylene—One death in 5,000 administrations.

These statistics prove, or rather appear to prove, that chloroform is eight times more dangerous than ether; but as this agent is used more indiscriminately and doubtless often more carelessly than ether, the comparative safety of these two anæsthetics can not just now be exactly determined. In all other respects its superiority to ether has led the profession generally to give chloroform the preference; but there is unquestionably a strong disposition on the part of surgeons, both in this country and in Europe, to substitute ether for the more powerful anæsthetic.

WOUNDS.

The superiority of the present method of treating external wounds, compound fractures, and similar injuries may be attributed chiefly to the simplicity of the dressings now coming into general use, and to the attention paid to the hygienic surroundings of the patient. Ointments, plasters, and poultices in such cases have been almost universally discarded, and in their stead cleanliness, light dressings, and sufficient drainage have become the cardinal rules in the management of this class of injuries.

The *antiseptic plan*, so successfully practiced by Prof. Lister and so much lauded by him and his pupils, has been extensively used by surgeons since Lister's publications in 1867; and, though much good has resulted from this method of treating external wounds, *carbolic acid* has not proved to be such an infallible remedy as the reports of its advocates would encourage us to believe. Lister's success is doubtless to be attributed as much to the improved hygienic condition of his wards and to the close attention he has given his patients as to the virtues of carbolic acid.

The conclusions which I derive from the testimony of the profession concerning the use of carbolic acid in the local treatment of wounds and compound fractures may be summed up as follows, viz.: that as an antiseptic carbolic acid used locally is a valuable agent, and is especially useful in hospital practice, where antiseptics are almost universally demanded; that where no antiseptic is indicated carbolic acid adds nothing to the value of other dressings, and that in a country practice it is seldom called for; that it has no power to prevent suppuration, erysipelas, pyæmia, or other ill consequences following wounds; but that it may mitigate these evils, and thereby lessen the mortality from these causes; that it may be absorbed into the system when applied locally, producing poisonous effects which sometimes terminate fatally, and therefore that the greatest caution should be exercised in its employment.

In support of these conclusions I refer you to Guy's Hospital Reports, published last year; to Professor John Wood's address on Surgery, read before the British Medical Association at its last meeting; to a paper by Sir James Simpson, published in the Medical Circular and Press, October, 1869; to Guy's Hospital Reports, vol. 11, 1868; and to the American Journal of the Medical Sciences, July, 1873.

Fractures.

In no department of surgery has there been a more progressive advance than in the treatment of fractures. Forcible extension is no longer advocated as the rule in these injuries. The only degree of extension admissible is just enough to reduce the fragments and to give the disabled limb support afterward.

The natural tendency of the fragments after being reduced, and after the muscular irritability consequent upon the injury has subsided, and when the weight of the limb is removed, is to remain in contact; nor is there any subsequent irritability of the muscles to displace them if the case has been properly managed.

Immovable Dressings.

As an application suitable for all classes of fractures the "immovable dressings" have been employed by surgeons for the last forty years; and, though the voice of the profession has pronounced them valuable in the treatment of many cases, they have not met with the universal acceptance which the advocates of this method have anticipated. Surgeons at the present time are by no means disposed to dispense with splints, and my own experience has taught me to believe that no form of immovable dressing can ever altogether take their place.

Of the various kinds of immovable apparatus in use I have found the manila-paper dressing, recommended by Dr. R. O. Cowling, of Louisville, to be preferable to any I have used. There is nothing new in the use of paper for splints. It was recommended by Langier in 1838, and is favorably mentioned by Malgaigne in his great work on Fractures. Wales, in his Surgical Operations and Appliances, gives specific directions how to prepare and apply paper dressings to fractures. Dr. W. J. Holt, of Montgomery, Alabama, had used paper in the Crimean war, and subsequently in the Confederate army and in civil practice. His plan of applying paper dressings is given in the Southern Medical and Surgical Journal, July, 1867. Dr. Cowling's method, however, is superior to any other, and he is entitled to the credit of having brought paper dressings to their present state of perfection, and of having directed professional attention to the utility of manila paper in the treatment of fractures and other injuries. His *paper* is published in the American Practitioner, January, 1871.

Fracture of the Femur.

The different methods recommended for the treatment of a fractured femur and the innumerable modifications of splints devised for this purpose are well calculated to perplex a student, and to convince the practitioner that the best plan of treating this injury is still a desideratum in surgery. Perhaps a majority of surgeons adopt some modification of the long external splint; others prefer the immovable apparatus; and undeniably this plan, in the majority of simple fractures of the shaft of the femur, possesses great advantages over the use of splints, since under this treatment, which is more readily applied and less irksome to the sufferer, the patient is enabled to leave his bed much earlier, and to enjoy the benefits and pleasures derived from exercise in the open air. I can but think, however, that attempts to walk on crutches are frequently made too soon, and that the injunction of Billroth not to permit the patient to use them in less than three weeks is a wise one; for I have found that a patient with any serious injury of the lower extremity must be educated to the use of the crutches before they can be of any service to him, and that when he attempts to use them too soon he prefers to remain in bed to the annoyance, fatigue, and danger of learning to walk with them, and it is difficult to get him to try them afterward.

Fracture of the Clavicle.

Dr. Edward Hartshorne has undoubtedly promulgated the true theory of the displacement of the fragments in fracture of the clavicle, and pointed out the proper object to be fulfilled in its treatment. In two cases of this fracture occurring in my practice last summer I made this point a special object of clinical study, and satisfied myself that Dr. Hartshorne's theory is correct. I am also convinced from positive demonstration that the ordinary treatment of this fracture is founded on erroneous principles; and that no degree of elevation of the shoulder, combined with any contrivance to throw it outward and backward, can replace the broken bones, and therefore that no apparatus designed to accomplish these purposes only can fulfill the rational indications for treatment. You may carry the shoulder far above its natural position, and still the displacement remains. You may throw it outward and backward to an abnormal degree without removing the deformity.

The difficulty is that the scapula is displaced; the end of the outer fragment is drawn in toward the chest and twisted upon itself. In this connection I will mention a sign of fractured clavicle which I have seen nowhere noticed, and yet one which in thin persons will enable you to diagnose this injury without any additional symptom. It is the unnatural prominence of the posterior border and inferior angle of the scapula. This is one of the most peculiar and conspicuous signs of fracture of the clavicle, and it will enable any one to distinguish this injury from any other in the vicinity of the shoulder-joint.

There is nothing easier than to reduce a broken clavicle, and nothing more difficult in the treatment of fractures than to retain the fragment in apposition afterward. To replace the bones, press with one hand on the scapula forward and somewhat upward, using counter-pressure with the other hand on the anterior aspect of the shoulder, while with the thumb in the axilla elevate the arm just enough to remove its weight, and every trace of deformity disappears.

For the treatment of ordinary fracture of the clavicle occurring in men the simple appliance of Prof. Hamilton, recommended in his late work on Surgery, is perhaps preferable to any yet devised. It does not pretend to meet the rational indications—which indeed can be done only by confinement to bed in the supine position, a requirement which few patients will submit to—but it removes the weight of the arm, supports the disabled member, and keeps the parts at rest, about all that can be done in the majority of cases.

Hamilton's apparatus consists simply of a "sling passed under the elbow of the broken limb and tied upon the opposite shoulder; an axillary pad which completely fills the space between the upper part of the arm and the side of the chest, but which is not so thick or firm as to constitute a fulcrum; and a bandage to secure the elbow against the side of the bed."

Fracture of the Patella.

The greatest improvement in the management of this fracture is perhaps the treatment by the use of the ring, introduced into practice, I believe, by Dr. Gibson, of St. Louis. I have treated only one case by this method; but the result has been so satisfactory that I should never think of adopting any other. The case I refer to occurred in the person of a lady seventy years of age. She regained perfect use

of the limb, and has never experienced the least inconvenience from the injury since. I feel confident that osseous union took place in this case.

In country practice, perhaps, fractures in the *vicinity of the ankle-joint* occur more frequently than in any other region of the body. At least this has been my experience. I invariably treat them by the immovable dressing, and in all cases with satisfaction.

Surgery of the Hand.

Since the introduction of machinery into almost every pursuit injuries of the hand have become quite frequent in civil practice. The proper management of such cases has received less attention from surgical writers than the importance of the subject deserves; and in consequence of the prevailing tendency toward an excess of conservatism in operative surgery doctors are frequently tempted to preserve more of the parts than can be of any practical value to the patient. A stiff and crooked finger can surely be of no use; one that is flexed and fixed into the palm can add nothing to the utility of the member. In fact such deformities are so many encumbrances to the patient, and standing testimony to the surgeon's want of skill. In these cases, of course, only general rules can be given. I would say that whenever a tendon has been severed and the soft parts around lacerated or contused, or even if the laceration and contusion be extensive, the tendon remaining intact; or when the sheath of a tendon has been opened by a lacerated or contused wound; or when the skin has been torn up from the bone, the parts around infiltrated with blood; there can be little hope of preserving a useful finger. In compound fractures of the fingers or metacarpal bones, accompanied as they usually are with contusion of the soft parts, or when the joints are torn open, the skin torn from the bones, the tendons stretched and exposed, amputation or excision should, in my opinion, be practiced. Indeed I think that in all cases of doubt amputation had better be resorted to than to run the risk of giving the patient stiff and crooked fingers, and thereby bringing discredit upon surgery.

Torsion, Acupressure, Ligature.

The evils attending the use of the ligature have induced surgeons from time to time to attempt to institute some better method of

arresting hemorrhage. The chief of these means have been torsion and acupressure.

Of these two plans torsion seems to be preferred by the majority of surgeons. It has been extensively employed and highly recommended by many of the ablest men in the profession, especially by Prof. Syme, of Edinburgh; Mr. Bryant, of Guy's Hospital; and by Dr. Marion Sims, of our own country. Torsion was a favorite practice with the French surgeons in the early part of the present century, especially of Amussat and Velpeau, but soon fell into disuse, chiefly through the opposition it encountered from the celebrated Dupuytren.

A method of arresting hemorrhage so simple, so consistent with the natural process of closing arteries, and so confidently recommended by men of deserved eminence in the profession, must possess great merit; yet the advantages claimed for torsion by its advocates have not proved to be so great as to induce surgeons to abandon the ligature, which, since the days of Ambrose Paré, has maintained its supremacy, in the estimation of the great majority of surgeons, as the simplest and safest means of securing immunity from the dangers of hemorrhage.

Acupressure, brought into notice about two years ago by Professor Simpson, of Edinburgh, has also, through the writings of its discoverer and of Prof. Pirrie of the Aberdeen University, secured a fair share of the confidence of surgeons. So great was Prof. Simpson's faith in the success of this method that he expressed the conviction that "the invention of acupressure will one day do more for my fame than even the discovery of chloroform." This plan, however, has not sustained the hopes of its enthusiastic inventor, and we may confidently trust that the fame of Simpson will long survive the practice of acupressure.

Catgut Ligatures.

Prof. Lister has recently revived the practice of using catgut ligatures, cutting them short and leaving them in the wound, upon the theory that animal tissue is less irritating than a silk thread, and supposing that the catgut would be dissolved and absorbed, or at least be washed away with the discharges. Many cases treated in this manner have been reported by Prof. Lister, Mr. Holmes, and others, and remarkably good results have been obtained. The testimony of surgeons, so far as this method has been practiced, seems

to be very decidedly in its favor. One desideratum in surgery is a ligature made of material that will dissolve in the fluids of the wound, thus securing all the benefits and avoiding the evils of the ordinary thread. Whether catgut will in general practice answer these important ends remains to be determined by further experience in its use.

Traumatic Aneurism.

In the treatment of traumatic aneurism surgeons usually adhere to the old operation of opening the sac, turning out the coagula, and ligating the artery above and below the aperture. The frightful hemorrhage which so often attends this procedure has deterred many from undertaking an operation so difficult and dangerous. It is hoped that Esmarch's elastic bandage will be found useful in such cases. A case has already been reported, in the American Practitioner for March, 1874, by Dr. David W. Yandell, of traumatic aneurism of the radial artery, in which by the use of this bandage, says Dr. Y., "the sac was exposed, opened, and its contents turned out; the wound in the artery was brought clearly into view, the vessel itself being entirely empty; a ligature was thrown above and below the puncture; and all without so much as soiling my fingers or the knife."

Strangulated Hernia.

The improved methods of treating strangulated hernia have greatly reduced the mortality from this cause—probably more than fifty per cent. These improvements consist in the abandonment of the prolonged efforts at taxis formerly practiced, in the revival of Petit's operation by dividing the stricture without opening the sac, and in using the aspirator to draw off the gases and fluids from the constricted gut, enabling it to be returned more readily into the abdominal cavity. The superiority of Petit's operation is well attested by statistics recently compiled by Mr. Luke, who has shown that the mortality after opening the sac is about fifty per cent; whereas when the sac is not opened the recoveries are fully three fourths of the cases operated upon. Of his own eighty-four cases, he operated without opening the sac in fifty-nine, of whom seven died; of the twenty-five cases in which the sac was opened eight died.

Fissure of the Anus.

It is gratifying to know that an affection so annoying and painful as fissure of the anus can now, thanks to the genius of Recamier and to the skill of Van Buren, be so easily and quickly cured by forcible dilatation. Only two weeks ago I performed this simple operation upon a gentleman who had been a sufferer from this cause for two or three years. In his case there were two or three small fissures, and it is surprising how much distress these apparently insignificant ulcers gave him. I examined him yesterday (April 6th), and found him completely cured. He told me that he felt better in half an hour after the operation than he had for months.

Test for the Source of Pus in Urine.

Sir Henry Thompson has given a very simple and sure test for the purpose of determining the source of pus in urine, a question of the utmost importance in practical surgery. The test is this: wash out the bladder with warm water, using a double catheter; collect the first urine that flows from the catheter afterward; if this urine contains pus, the pus comes from the kidney; if not, the source of the pus previously detected in the urine is the bladder.

I will say no more upon the diseases of the genito-urinary organs. This subject is too vast and important for me to do justice to it now without extending this report to an unpardonable length. I would respectfully suggest that hereafter a special committee be appointed to report upon this branch of surgical practice.

Pneumatic Aspiration.

An instrument known as the pneumatic aspirator was exhibited to the French Academy of Medicine on the 2d day of November, 1869. It was the invention of Dr. Georges Dieulafoy, who presented to the same body an elaborate report upon the use of it in the treatment of various diseases.

The principle upon which the instrument acts is by creating a vacuum in a cylinder to which a tube, armed with a canula-needle, is attached, and then by plunging the needle into an abscess or into the cavities of the body forcing the contents of the abscess or cavity by atmospheric pressure into the cylinder.

The purposes for which it has been used are to relieve a distended bladder, empty abscesses, draw off the fluids from the pleura, pericardium, joints, etc. This instrument has proved to be especially useful in cases of retention of urine, in pleuritic effusions, and in strangulated hernia. Cases have been reported in which the bladder has been punctured eight and fifteen times with no bad effects. Dieulafoy relates ten cases of retention of urine successfully treated by aspiration, in which fifty-six punctures were made without ill consequences. Dieulafoy also relates nineteen cases of dropsy of the knee-joint in which the aspirator was used sixty-five times successfully. Such good results, however, do not uniformly follow. Cases have been reported where fatal arthritis has resulted from performing aspiration upon the knee-joint; and recently a committee, consisting of MM. Veneuil, Cruveilhier, and Desprès, appointed by the French Academy of Medicine, after a full investigation of the subject, reported, through M. Desprès, adversely to the use of the aspirator in diseases of the knee-joint, except in cases of chronic hydrarthrosis which had resisted all ordinary methods of treatment.

I would suggest that the aspirator might be successfully employed in hip-joint disease after suppuration has taken place. It might be the means of saving the patient much suffering, and of preventing those disastrous consequences which so often result from delay in giving an outlet to the discharge.

Dr. Bowditch, of Boston, in a letter to Dr. Allbutt, of Leeds, England, has given the results of his large experience in paracentesis thoracis by using a canula-needle. He dwells upon the benefits of the operation, and declares that "no amount or character or complication of disease" prevents him from operating, even to relieve the distress of patients suffering from pleuritic effusions, and that he does so "as freely as I would give a subcutaneous injection of morphia, or prescribe a blister or a cathartic."

One of the greatest triumphs of the aspirator has been in relieving strangulated hernia. Considerable interest has of late been manifested in this particular, and several claimants for priority have made their appearance. The practice naturally followed after the merits of aspiration had become generally known, and several surgeons appear to have resorted to the aspirator in cases of strangulated hernia about the same time. In France a case was reported as early as February,

1871, by M. Duplouy. In 1872 four cases were so treated: two in France, one by M. Demarquay in May, and one by M. Labbé in June; and two in England, one at the Middlesex Hospital by Mr. Hulke in May, and one was reported by Mr. Jessop in October. All these cases recovered. The introduction of this practice into England is attributed to Mr. Bryant, of Guy's Hospital, who had used the aspirator in a case as early as August, 1871, *after he had cut down upon the sac.*

It is with pleasure that I now turn to the records of surgery of our own state. I find in the Richmond and Louisville Medical Journal, September, 1871, a case of strangulated hernia treated upon the principle of aspiration by Dr. David Cummins, of Louisville, as early as November, 1869. This case is without doubt the first one so treated recorded in the annals of surgery. Another case was treated in this manner by Dr. Douglas Morton, of Louisville, in July, 1871*—the fifth case on record.

The Bloodless Operation.

Dr. Paul F. Eve, of Nashville, in expressing his admiration for the ring in the treatment of fracture of the patella, asks, "Why was it not suggested sooner?" When for ages the loss of blood in surgical operations has been the chief barrier to their successful performance, and when so simple a means as wrapping the limb in an elastic bandage obviates entirely the difficulties and dangers from hemorrhage, we may well exclaim, "Why was *this* not suggested sooner?"

Applying a bandage to a limb for the purpose of diminishing the quantity of blood lost in surgical operations is no new thing. This was done by Stromeyer and Langenbeck in 1853. Silvestri, an Italian surgeon, had practiced it probably much earlier. It was suggested indeed as early as 1845 by Dr. Mosby, of our own state. Mr. Heath says that a similar expedient had been resorted to in Scotland "for a long time," and Dr. Robert Weir states that the surgeons of the New York Hospital "had been in the habit of bandaging strongly the limb prior to amputation, first stroking it upward to empty the veins." To Prof. Esmarch, of Kiel, Denmark, however, is due the credit of perfecting the use of the elastic bandage to such a degree as to render all ordinary operative procedures upon the extremities

* Also another case in September, 1871.—[Ed.

almost absolutely bloodless, and of bringing into professional notice this great improvement in surgery.

An extended notice of this improvement, which recently has so deeply excited the interest of the surgical world, would be out of place here. Suffice it to say that, though some theoretical objections have been raised against it, the bloodless method has within a few months firmly established itself in the full confidence of surgeons, and promises to mark an epoch in the history of our art scarcely less notable than the introduction of the ligature or the discovery of chloroform.

CLIMATE IN PULMONARY CONSUMPTION, AND CALIFORNIA AS A HEALTH-RESORT.

BY LEWIS ROGERS, M. D.

A brief visit to California in November and December, 1873, enabled me to make some observations and inquiries in regard to that wonderful state as a health-resort for pulmonary invalids. Much has been reported and written upon this subject in the last few years by both professional and non-professional persons, and the attention of pulmonary invalids has been strongly and hopefully directed to that interesting portion of our country. I desired to see and judge for myself as far as this could be done in a brief visit. This desire was intensified by some of the incidents of the trip. The various trains from the north, east, and south converge at Omaha, and one consolidated train is daily made up containing the passengers going west. The train upon which I traveled was a long one, consisting mainly of sleeping-coaches filled with through passengers, many of whom were in quest of health. An association of a day or two brought me into contact with sufferers from pulmonary consumption in its various forms. Among these were some in the very last stages of the disease. One was a refined and cultivated lady from Boston, the wife of a physician, who had been taken from her bed upon the preceding cold Sunday night and placed in a sleeping-section, from which she was only removed when compelled by change of cars. One change was made at Chicago, a second at Omaha. I saw her in her berth, after leaving Omaha, suffering from cough, dyspnœa, pleuritis, loss of appetite, and all the discomforts incident to confinement in a crowded apartment, in which there could be neither quiet nor privacy. I have rarely seen a greater sufferer. At Ogden the Union Pacific Road terminates and the Central Pacific begins. Here she was compelled to change again. We reached this point at 6 P. M., and

were detained two hours. For a portion of this time this exhausted woman was placed in a cold and cheerless reception-room until her sleeping-section could be secured. When we reached Stockton, on Sunday afternoon, she was utterly worn out, and could go no further, having crossed the continent in six days. Another patient was a gentlemen from one of the eastern cities, emaciated and hectic, with lungs disorganized by tubercular softening. He was unable to complete the journey, and was left at Ogden or some other equally inhospitable and desolate place. A few days before, the celebrated pugilist Heenan had died on the train, somewhere between Denver and San Francisco, from pulmonary hemorrhage.

My experience during this trip was doubtless the expression of that which occurs on every train. Such cases as these are well calculated to excite serious and thoughtful inquiry as to what California promises in the cure of pulmonary consumption to those who incur such hazards and make such sacrifices to reach it. This is an inquiry which may be raised not only in regard to California, but every other place of note in this relation. There is a strong popular as well as professional faith in change of climate in the treatment of pulmonary consumption. Is this faith founded in fact? Do those invalids who formally travel from place to place in search of some healing climate more certainly get well or more surely prolong their lives than those who remain at home? Is the sum of human health and happiness increased or diminished by change of climate, considering in such an estimate the several elements of permanent cure, prolongation of life, separation from home, from old friends and associations, the hazards and vexations of travel, the countless anxieties and fears, the pecuniary sacrifices often very great? Is the good done by change of climate so great, so certain, as to entitle it to the prominent place which it holds as a remedial agent? Let every physician of sufficient observation appeal to his experience carefully and answer these questions.

I have seen much of pulmonary consumption, and have no hesitation in expressing the opinion that in many cases the disease is entirely arrested, and in many others a fatal termination postponed for years. I am equally confident that these fortunate results have been as often obtained in cases which have not enjoyed the influences of a formal change of climate as in those who have had such a questionable privilege. Facts will warrant me in going even further, and

in stating that I have observed more recoveries among those who did not change their place of residence than in those who did. This opinion is seemingly opposed to most of the authorities on the subject of change of climate in the treatment of pulmonary consumption, but it is not really so when the true meaning and intent of the best authorities are accurately interpreted. I believe that judicious travel and a climate selected with a careful adaptation to each individual case may be productive of infinite good, just as injudicious travel and the selection of a climate not properly adjusted to the requirements of the case may do infinite harm. Just here the great difficulty lies. Travel and climate are powerful therapeutic agents, and require care and precision in their administration, as other powerful agents do. Cod-liver oil is beneficial, eminently so in many cases, but in others it disagrees to such an extent as to prove hurtful. Alcohol as a remedy for consumption affords a still stronger illustration of the point which I seek to enforce. Its indiscriminate and copious administration in all cases, as if it were endowed with some specific properties antidotal to consumption—and this has been and is still the practice with many—is calculated to inflict and has inflicted great harm. Given judiciously, it is a remedy often of precious value; and so of arsenic, iron, the hypophosphites, and the entire list of remedies which have found a place in the therapy of this disease. A thorough knowledge of the requirements of each case, and a wise adaptation of travel and climate to these requirements, are the means by which good results may with some certainty be secured.

This is the doctrine theoretically taught by the authorities, and it is the true doctrine; but practically it is not enforced, and hence the unfortunate failures in many—in much the larger proportion indeed—of the unhappy subjects of climatic changes.

Fashion has its influence in medicine as in all the affairs of life. Remedies are in vogue for a time, and are lauded for their wonderful curative powers, and then sink into unmerited disrepute possibly, or pass wholly out of notice. So has it been in regard to various noted places in their climatic relations to pulmonary consumption. A few years ago Madeira was the favorite resort in Europe, then Nice, and now Mentone. In this country Florida long held the leading position, paling for a time before Minnesota, and now again re-asserting its claims to superior consideration. For a few years a large proportion

of invalids of this class sought Minnesota, but at the present time this state does not maintain the curative celebrity which it enjoyed. At the present time Colorado and California are attracting a large share of attention, and thousands of invalids have gone thither with hopes even more sanguine than animated the pilgrims to the other resorts alluded to. Sufficient time has not elapsed to determine how far their hopes will be realized, how far the glowing accounts of the beneficial influences of these climates will stand the test of direct and extended trial. I do not doubt what the result will be. The history of all other climates will be repeated in these, for the reasons which I have endeavored to set forth. There is no climate in the world, and there can not be, which possesses specific powers in the cure of pulmonary consumption. Here the great error exists. All the climates mentioned possess virtues which are adapted to some conditions and some cases, and are equally hurtful to others. The former improve, have life prolonged, or get well, and are heralded all over the world; the latter perish and are forgotten. The few who are so fortunate as to recover give unmerited repute to the climate; the many who die do not tell their story.

Consumption can not be successfully treated in the Procrustean bed of any one climate. The indiscriminate resort of patients in the various stages of the several forms of the disease to the same climate must necessarily lead to failure in a very large proportion of the cases. This irrational course affords an explanation of what I have ventured to express as my own experience, that more pulmonary invalids recover who stay at home and are properly cared for than when they subject themselves to the uncertain and unknown chances of change of climate. In a vast proportion of instances unknown conditions of disease are subjected to unknown conditions of climate.

Let us consider a few of the elements of the problem to be solved when the question of climate is raised in regard to a case of pulmonary consumption. We shall see that it is a most complex question. In the first place, the precise nature of the case must be known. We must determine to which of the several varieties of the disease it belongs; whether it is the result of an inherited diathesis, which surely sooner or later discloses itself in the form of a disorganizing disease, even under the most favorable circumstances, and without any apparent exciting cause immediately provoking its development. These diathetic

cases are common, the organism being innately endowed with a vitality sufficient only for a limited number of years. Or whether it belongs to that class of cases which has its origin in inflammatory processes—bronchitis or pneumonia, or broncho-pneumonia — which recent pathologists assign as frequent causes of consumption without any hereditary predisposition. Or, again, whether the result of special modes of life and occupation, or the septic influences incident to a residence in a crowded city or badly-ventilated and foul habitations. These factors must enter into the solution of the question of climate. The special condition of the case at the time must be carefully considered. The stage of the disease, the extent to which the lungs have been disorganized, the condition of the digestive organs, the constitutional symptoms, all these and many other important details must be estimated in the decision of the question. The special susceptibilities of the case must be known; whether a cold or warm, a moist or a dry, a stimulating or a relaxing climate is most likely to agree. These are points which should, if possible, be predetermined, but which often are not or can not be until actual experiment is made, probably too late to rectify any error of selection.

Assuming that a thorough knowledge of all these essential matters has been secured, the qualities of climate adapted to the special requirements must be known to exist in the place which may be selected. In regard to most of the health-resorts of pulmonary invalids, both in this country and in other parts of the world, we are supplied with much reliable information. We have hygrometrical and thermometrical tables for each day and week and month of the year, the diurnal variations, the electrical conditions, the prevalent winds, the geological and other telluric features. Without entering into further details of this kind, we have such data as would seem sufficient to enable a physician to select a climate adapted to the case in hand; and this is sometimes done, and the result is most fortunate. Such instances are exceptional, however. My own experience tells me that a large proportion of pulmonary patients who seek health in distant climes fail to find the adaptation so essential, and are sadly disappointed in securing the anticipated benefits. If this be so when a climate is selected by the aid of all the light that can be shed upon the selection, how much more certain must be the disappointment, and how much more disastrous the failure, when patients rush indiscrimi-

nately to such places as may be the fashion for the time, under the guidance of inadequate evidence and false statements? It is a suggestive fact, indicating strongly the uncertainty of the adaptation of the means to the end, that patients rarely realize their expectations in regard to the benefits of climate. The place to which they go, though chosen with never so much care, rarely fails to be deficient in some essential conditions. It does not prove what it has been represented to be; the season often happens to be exceptionably bad; weather such as was never known before is encountered; and this is the experience of a large proportion of cases year after year. The truth is that no climate is invariable. Every year there are fluctuations, and the future can not be accurately predicated upon the past. I have sent patients to Florida, to Minnesota, and other health-resorts abroad, and with few exceptions the result has not been favorable. They have returned with the report that the season of the year was an exceptionally bad one, or that they had gone too late for the beneficial influences of the climate, or that they had been damaged by improper and badly-prepared food and the want of the comforts connected with home.

A due estimate of these latter causes of failure must be made when sick people are sent to strange places. However well adapted a climate may be in itself, it will fail to do good unless the food be just what it should be, in quality and quantity, and this is very seldom the fact. The sick can rarely get what they need in hotels and boarding-houses, or that kind of food essential to their proper nutrition. They who have ample pecuniary means can not do so, while the larger class, who are compelled to exercise economy, often suffer very seriously in this regard. If sick people be compelled to deprive themselves of many things essential to their comfort because of their cost, the good effects of climate and travel will be more than neutralized. No invalid should ever travel unless prepared to spend money without the harassing sense that he is not able to afford the large outlay necessary to his comfort. I am now taking a practical view of the matter, for I have known the depressing and damaging influence f this kind of thing upon many people.

There are other topics of a kindred character which may be adverted to here as modifying and sometimes counteracting the good effects of climate, and which should be estimated in sending invalids o distant regions. There are many people so constituted that they

are miserable when long absent from home. Homesickness will more than neutralize the good effects of a climate perfect in its adaptation.

Again, in health-resorts of much repute the society must consist largely of invalids suffering with pulmonary disease. It is not possible to say how far the atmosphere of a place crowded with consumptives may be contaminated by morbid effluvia, but it is altogether probable that such contamination does exist to some degree, and that it must prove more or less reciprocally hurtful. It can not be doubted, however, that the moral influence of such association must be damaging. Despite the hopeful view that consumptives generally take of their condition, they can not fail to feel more or less acutely the death of those with whom they may have been associated, or to indulge in depressing sympathy with such as may seem to be incurable.

The scope of this paper indicates in very clear terms my opinion that the formal migration of pulmonary invalids to the various distant health-resorts which acquire or have acquired celebrity has not been productive to them of benefit as a constant or even frequent result. I have given reasons why this was not likely to be the effect, even when the places were selected with careful regard to climatic adaptation, and less so when such migration was a mere haphazard venture. This opinion is not inconsistent with a very great confidence in what I have called judicious travel. In the treatment of all chronic diseases, in many functional and even organic affections which have not gone to the extent of structural disorganization incompatible with life, and especially in the treatment of pulmonary consumption in its first and sometimes in its later stages, we have no remedial agencies comparable with judicious travel; such travel involving, in its manifold power, change of climate, of scenery, of food and water; of mental, moral, and physical states; of all the forces which influence organic nutrition Such travel may be desultory and various, varied to suit the exigencies of each individual case, long or short, to near or more remote points, to warm or cold, to high or low regions, to the country or to cities, as taste, inclination, money, or special requirements may dictate. Patients may travel in this way and return home from time to time, and derive more surely all the beneficial influences possible in their cases without any of the damaging effects of homesickness, monotony, bad food, incompatible climate, long banishment to a distant and

strange land, without suffering what Holden so happily denominates "ostracism for consumption."

The opinions which I have long entertained, and have endeavored in an imperfect way to indicate in this paper, were not modified by my observations and inquiries during my recent brief visit to California. With a special purpose of great interest to me, I consulted a number of the most intelligent physicians of San Francisco in regard to most of the parts of California which have been spoken of as eminently useful in their influence upon pulmonary consumption. My inquiries were more particularly directed to San Diego, Santa Barbara, San Bernardino, Los Angeles, and San José. Southern California, as we know, has acquired very great repute in the last few years, and has been spoken of as destined to become the great sanitarium for this and many other forms of pulmonary disease. It is to this portion of the state that thousands of people are now going for the restoration of their health, either as temporary sojourners or permanent residents. All of the towns mentioned are thronged with people of this kind, particularly in the winter season. To my surprise I did not find a single resident physician at all enthusiastic in his praises of Southern California. They all expressed the rational view of the subject which I have expressed. I asked them if they were in the habit of sending their patients to Southern California, and they replied that they did so occasionally and for a brief period of the winter, but that they preferred for most of their cases the high and cool resorts of the Sierra Nevada Mountains. This preference is expressed by Dr. F. W. Hatch, as the result of observation and statistical deduction, in his two able reports upon the Climatology and Diseases of California to the American Medical Association. These physicians, however, claimed for California what probably exists nowhere else—the possession of every variety of climate which has been found useful in the various forms and stages of consumption, a variety which admits of a ready and very perfect adaptation to individual peculiarities and requirements. A very few hours of travel will place a patient in whatever climate he may desire—warm or cold, dry or moist, on the mountains or the plains, inland or on the sea-shore, in sheltered valleys or breezy uplands. This variety and facility of adaptedness exists nowhere else in this country. In Florida every kind of warm climate may be found suitable to that class of patients who require warmth; but there are no mountain-

ranges, no elevated regions in which the influences of a low temperature and a diminished atmospheric pressure can be enjoyed—conditions of climate now deemed so valuable in a large class of consumptive invalids. In Minnesota we find the cool, dry, bracing air of a moderately elevated country, with the absence of the warm, equable temperature so necessary to a large class of invalids. In Colorado we have cool, dry, invigorating air, with a low barometric pressure, without the equable warmth so congenial to many delicate constitutions. In California all of the best qualities of these several resorts can be readily found, while those which are likely to prove hurtful after a brief trial can be avoided.

San Diego is distinguished for its warm and remarkably equable temperature, the diurnal variations being very slight, and the changes due to the seasons so inconsiderable as to be harmless. Its proximity to the sea renders the air salt and somewhat humid, unless the wind blow from inland, and in the winter season cold fogs are sometimes troublesome for a portion of the day. Many of the physicians of San Francisco prefer San Diego to any other place as a winter residence for a certain class of patients. From what I could learn, it is deficient in variety and abundance of the best kinds of food. The general supply of some of the most essential articles is brought from a distance.

Santa Barbara enjoys a like equable temperature, somewhat colder than that of San Diego, with a salt and somewhat humid air, and occasional but less frequent and warmer fogs. The weather is sometimes too warm and relaxing for some consumptives, patients "deliquescing," as I heard a physician remark in regard to the effect of that climate upon a distinguished member of the medical profession from New York.

San Bernardino enjoys a temperature very similar to that of San Diego and Santa Barbara, but being more remote from the coast its air is more dry, free from sea impregnation, and fogs do not so frequently occur. Stockton and Visalia are inland towns, with a mild, dry, and equable air, and very agreeable to many invalids to whom sea-air is offensive.

San Francisco is generally conceded to be injurious to pulmonary invalids, though the months of April, May, and June are unexceptionable in most of the qualities of a delightful climate.

My observations and inquiries about San José and its vicinity, and particularly the warm belt of the foot-hills, led me to think most

favorably of them as a place of temporary or permanent residence for many pulmonary invalids. Apart from its qualities of climate, San José is a lovely city, in a valley of unsurpassed beauty and fertility, with the mountain-scenery of the coast-range on either hand, good society, and all the refinements and luxuries of life.

Sufficient time has not elapsed to determine what influence the varied climates of California may have upon the permanent residents of the state, upon the inhabitants born and reared there, in the prevention or production of pulmonary consumption. No fair inference can be drawn from mortuary statistics, for the constant influx and death of consumptives from other parts of the world must vitiate any present deductions from such statistics. Even if the line could be accurately drawn between cases produced in California and those imported, hereditary predisposition or taint may fairly be supposed to extend its influence through several generations, and be legitimately held to modify or oppose effects strictly due to climate. Many of the present citizens of the state are the progeny of consumptive ancestors, who settled there in search of health. Even if California should be found not more exempt from phthisis than other places, or absolutely more productive of it, this could not be held as valid proof of its unfitness for strangers seeking it as a health-resort; for, as Dr. Walshe pertinently remarks, the apothegm "*pessimum ægro cælum est, quod ægrum fecit*" can not be accepted unconditionally. "Probably the earth offers no more favorable spot to the tuberculized British patient than Nubia, yet the native Nubians are extensively destroyed by phthisis. Again, the climates of Australia almost invariably prove serviceable to delicate Europeans, natives of northern latitudes; yet pectoral disease is far from being unknown among the natives of Australia of British stock." These facts conclusively disprove the prevalent popular idea of specific virtues for consumptives in any climate.

In times which now seem old, so vast have been the strides of modern enterprise, but which really are within the limits of a half decade, "a trip across the plains" was accounted one of the most efficacious of the means for the prevention and cure of consumption. Such a trip doubtless proved beneficial often, but not infallible. While many were improved, many perished by the wayside. This trip, which once consumed six months, and derived its usefulness in part from the

toil, exposure, wild adventure, and danger incident to it, can now be made in six days with ease, comfort, and safety. It yet presents, however, strong claims to consideration as a remedial agent. The travel from Omaha to the Golden Gate is as delightful as travel can be. The road is under almost military discipline; the cars capacious, comfortable, and elegant; the officials polite; the eating-saloons superior to those on many of the eastern roads; and the companions of the voyage often very interesting. The novelty and variety of incidents and scenery produce and sustain a constant state of mental exhilaration and dispel all sense of fatigue, and the traveler reaches San Francisco, refreshed and invigorated, after an unbroken journey of more than two thousand miles. If an invalid choose to do so, he can pause for a time at Cheyenne, Laramie, or some other place of interest, or make most agreeable and instructive detours to Denver, Salt-Lake City, Nevada City, the mines, or the lakes and mountains on either hand. Apart from all climatic change, such a trip as this judiciously made, can not fail to be productive of most salutary results.

CEREBRO-SPINAL MENINGITIS.

BY E. S. GAILLARD, M. D.
LOUISVILLE, KY.

Mr. President and Gentlemen of the Kentucky State Medical Society:

In presenting briefly to your attention the subject of cerebro-spinal meningitis, I propose to confine myself chiefly to a consideration of demonstrated or demonstrable facts; for the disease has in recent years been so much discussed, both verbally and by the press, that any comprehensive or elaborate mode of treating the subject here would of course be impracticable. It would require the space of a large volume rather than that offered by these few pages were I to attempt to analyze most or even a material part of what has been presented. I shall therefore not seek to cultivate so extensive a field, or to allude to the infinite questions of either historical or speculative interest connected with it, but shall endeavor to confine myself chiefly to a presentation of facts.

Name.—It is rarely that a disease is as happily and correctly named; and the name now used shows not only that the disease has been very properly removed from the endless catalogue of what are vaguely termed fevers, but that it is definitely referred to the definable class of absolute inflammations.

Definition.—While many, after the fashion of Aitken, Clymer, and others, have sought to furnish a definition of the word cerebro-spinal meningitis, and in seeking to accomplish their purpose have given but descriptions multiplex and almost interminable, it must be admitted that such a system of study in this disease (and in all diseases) is faulty and injudicious. Is it not much better, in accordance with an older and better usage, to select for a disease a name so indicative of its prominent manifestations as to give to the disease an indisputable individuality, and then, repudiating in the definition the endless enumeration of its chief characteristics, to elaborate all such details

in connection with its symptomatology? Adopting then the older rather than the modern method of definition, the definition of the term cerebro-spinal meningitis is given here as follows: A disease usually epidemic, and characterized as a rule by inflammation of the meninges of the brain and spinal cord.

History.—Contrary to opinions widely entertained, this disease is one of the oldest described in the medical literature of the past four centuries, and while, like diphtheria, the scenes and periods of its epidemic visitations have been so often and so widely separated as to cause the very existence of the disease to be forgotten, or to appertain apparently to past rather than to contemporaneous medical literature, still it is a fact that its existence can, for at least four centuries, be distinctly traced, both in Europe and America, wherever medicine has enjoyed a literature, or where medical subjects have been the themes even for tradition.

It has prevailed in all seasons, climates, ages, sexes, and conditions. The quiet days of the balmy spring-time bring no exemption from its visitations; when nature at this time speaks not of death, but only of life, or the renewal of life, when her green veil covers with its deceptive illusions the death records which the previous season has left in its trail, even then, in a season so peaceful and joyous, this disease has made desolate the hearthstone, and brought the pallid hue of fear to the cheek of the bravest and the best. It has destroyed with no less ruthless violence in midsummer and in the harvest-time of bountiful autumn; and when icy winter locks up in its frigid embrace inland streams and rivers, when even the sea dashes its ice-crystal foam upon the frozen beach, this disease has sent its myriads to the cemetery, and with the gentle snow beautifully carpeting recent graves has taught us that this destroyer claims all seasons for its own. Rural hamlets and regal residences, the abodes of poverty and the courts of the rich, have all been the scenes of its fell visitations. It has desolated frozen Russia; it has stricken unhappy Poland; it has substituted wailing for mirth amid the festal scenes of vine-clad Italy. Africa has not escaped. It has devastated the villages of the Ganges and mountain-cottages perched upon the highest peaks of the Himalayas. China and India have been visited. The English, the Irish, and the Scotch have all testified to its fatal horrors. It has made the mercurial French feel that there is desolation as well as festivity,

that there is mourning as well as dancing for a nation. The Spaniards have had this disease added to the long catalogue of their familiar and great misfortunes. In America it has been seen every where; in her cities, towns, and villages; in cottages perched on mountain eminences; in the alluvial regions of seas, lakes, and rivers; on vast prairies, and wherever the restless American has sought to establish for himself "a local habitation and a name." Its victims are of all ages and of both sexes. It has robbed the cradle of its gentle and tender occupant even in the first month of the infant's painful life. Puberty, adolescence, and old age offer no exemption to its ravages; and while the male oftener suffers, the female enjoys in epidemics not even an exceptional immunity. It has raged with peculiar violence in armies, and during the late war military camps and stations were almost decimated by its violent visitations. Troops encamped in the snow-covered fields of desolated Virginia suffered; those about the sea-coast cities were scourged. The western armies distributed along the Mississippi, and even amid the wild regions of Texas, were terribly stricken. Its history thus shows that it has prevailed for centuries, and in all seasons, climates, ages, sexes, and conditions. It seems to be an impartial scourge—a destroyer that has no favorites; though the quaint Plieffer states, in his quaint way, that "it prefers winter, soldiers, and children."

Such are briefly some of the chief points connected with its history.

Pathology.—Naturally enough, the physician is almost exclusively interested in its pathology, for the modern science of medicine demonstrates in myriad ways that a rational and reliable pathology forms the surest if not the exclusive solution to the difficult problem of practice. For while Niemeyer and many of his school and his admirers would so carry medicine back to the dark ages of its history as to teach that practice rests upon observation and experience, he was, though a great man, not great enough to fasten this heresy upon the genius of modern medicine. Modern practice walks ever in the wake of modern pathology, even as success treads in the footprints of investigation, and as triumph erects its banner over each field of discovery.

It is but natural then that the pathology of this disease should have been patiently and unweariedly studied. The scalpel, the retort, and

the microscope (forming that Pythian tripod upon which rests the hope of medical science) have all been laboriously used, and the results form the chief facts of interest and value connected with this malady. It has unquestionably been demonstrated that the pathology of the disease is strictly the pathology of an inflammation involving the coverings of the brain and spinal cord. Post-mortems have demonstrated that death may occur in any of the three stages of inflammation; viz., as the result of sudden or prolonged or malignant congestion; as the result of effusion; or as the result of suppuration. All of the symptoms are generally referable to one or more of these three conditions; and while ingenious medical sophists would strive to make a mystery of one form of this disease, and with dramatic exaggeration term it the fulminant or thunderbolt form of cerebro-spinal meningitis, it is a fact that under the strongest magnifying powers the tissues of those thus destroyed have usually manifested evidences of sudden and marked congestion. It is safe and tenable then to regard the pathology of this disease as an inflammation of the meninges of the brain and cord, induced by causes whose study belongs properly to another and the next section of this paper.

Etiology.—In endeavoring to present chiefly the facts connected with this disease, it is proper to acknowledge that there is but little which can be reliably given as to its exclusive or specific etiology. One statement at least may be accepted as a fact; viz., that the disease is neither infectious nor contagious. This fact rests upon a broad and impregnable basis—the concurrent testimony of almost every observer and practitioner. What may be either the original or usual cause is a theme as yet for speculation and investigation. As to the alleged cause so often stated—viz., an epidemic condition of the atmosphere—this simply conveys us back to the speculative and perhaps even to the dark ages of medicine. It means nothing tangible, nothing tenable, nothing satisfying, convincing, or even comprehensible. The explanation is like Othello's description of his purse: "'T is something—nothing." In the domain of fact it has no place; in the temple of truth there is no niche small enough to suit its diminutive and pigmy proportions. It is better to say then that the cause of cerebro-spinal meningitis is apparently some poison which contaminates the blood, and which, like many poisons, produces a definite and characteristic inflammation.

Sporadic and Epidemic Prevalence.—While this disease most usually prevails epidemically, it does occasionally prevail sporadically. Its epidemic tendencies are, however, sufficiently uniform to justify one in stating, among the facts characterizing the disease, that it chiefly prevails as an epidemic. Its epidemic manifestations and tendencies are conspicuous. Indeed Upham states that "horses and cows appear to have been affected; after these, hens and chickens, and in some instances dogs and cats." That cerebro-spinal meningitis prevails most generally as an epidemic may therefore be accepted as one of the facts appertaining to the disease.

Symptoms.—There is exceptionally a chain of symptoms well marked and familiar—malaise, anorexia, mental and physical inertia, cephalalgia and rachialgia, chill with marked fever. Most frequently, however, the disease appears without any of these familiar manifestations, the patient being often seized without any premonition. There is a rigor, or a chill, and fever soon supervenes; with the fever there is almost always intense headache, occasionally frontal but usually occipital in character—the headache in this disease being generally exceedingly severe. There are joint pains and severe spinal pains, with some tenderness along the spine. The skin is variously affected; generally dry; it is occasionally bathed in profuse, persistent, and offensive perspiration. With either the dry or damp surface, hyperæsthesia of the skin is often very decided. The patient is usually exceedingly restless; indeed in some instances this amounts to almost uncontrollable jactitation. The pupil is sometimes contracted, sometimes dilated. In the first stage of the disease, unless the congestion is extreme, the pupil is usually enlarged; it may be contracted. When effusion and suppuration have occurred it is generally distinctly dilated. The temperature is very variable. Many cases die with the temperature below 100° F. Occasionally it reaches 105° F. While a high temperature is of course indicative of great danger, a temperature of 100°, or even less, does not by any means (unless coincident with other favorable symptoms) betoken a good result.

The bowels are usually constipated; the tongue is furred, covered usually with a tenacious, pasty fur. The urine is scanty, rarely albuminous, of high specific gravity, and depositing uric-acid crystals and amorphous urates freely. Nausea and vomiting are generally present and persistent. These symptoms, as is usual in most cases of cerebral

trouble, are not relieved by free emesis, either induced or spontaneous. Delirium is frequent and peculiar. Unlike that of typhoid and typhus fevers, it disappears to a material extent when the patient is aroused; but as soon as again left alone he speedily relapses into that wandering, dreamy delirium so peculiar and so almost characteristic. As the disease advances, the marked retraction of the head increases, and not infrequently with this increase there is marked opisthotonos. While some have regarded this condition as voluntary, the patient seeking thus to relieve the efferent nerves of the cord from pressure, there can be no doubt that this muscular contraction is involuntary and spasmodic in character, the spasms sometimes being clonic and sometimes tonic and even tetanic in character.

The pulse is exceedingly variable; usually feeble, irregular, and very frequent. Sometimes it is markedly intermittent in character, these intermissions being often preceded or succeeded by violent and tumultuous action of the heart. The respiration is usually shallow and frequent, becoming at times much disturbed, irregular, sighing, or gasping in character. The joint pains in some instances are very troublesome, and occasionally they are nomadic in their manifestations, passing from joint to joint, leaving as a rule (unlike the rule in rheumatism) no traces behind them. In rare instances, however, these wandering pains foreshadow a distinct hydrarthrosis or dropsical effusion into the joints.

While many have termed this disease spotted fever, from the dark-red or purplish spots often seen on many portions of the body, these spots are now properly regarded as only one of the manifestations of the blood-poison, causing or coincident with the disease. This fact is unquestioned, for in a large proportion of cases these spots do not appear. When apparent they may be regarded as usually indicative of serious results. The nerves of special sense are seriously disturbed. In some cases the functions of taste, hearing, vision, smelling, and occasionally of tactile sensibility are perverted, impaired, or even destroyed. Occasionally herpetic eruptions are seen, and in a few instances an extensive eczema. In many cases there are grave disturbances and lesions of the nervous system. Sometimes the resulting paralysis has been only temporary, the immediate result of blood-poisoning. In other cases the paralysis has been permanent, due to some organic lesion; as the result of vascular rupture or tisssue-

change, etc. These manifestations of paralysis are sometimes indicative of trouble occurring in the anterior portion of the cord, producing varied and various impairments of motion. Sometimes the posterior portion of the cord is implicated, resulting in curious and manifold disturbances of sensation. Often the cranial nerves are implicated, producing varieties of strabismus, with serious impairment of the functions of the special senses. Most of these impairments, disturbances, and injuries of the nerves, either of the cranium or cord, foreshadow a fatal result.

In one case, seen in consultation with the Secretary of this Society, Dr. Larrabee, there was a regular series of these nervous disturbances manifested—unilateral paralysis, paraplegia, strabismus, loss of taste, hearing, vision, disturbances of deglutition, followed by prolonged asthenia—death occurring in the fifth month of the attack.

In many cases death occurs from asthenia; in some from early nervous exhaustion; in some from the immediate prostration caused by the blood-poison; in some from cerebral or spinal lesion; and in many from the immediate effects of the inflammatory fever, with coincident loss of sleep, rest, and the blood-making power.

Treatment.—Every conceivable treatment has been adopted in this disease. Almost every variety has been successful, and almost every variety has failed—venæsection general and local, cupping dry and wet, calomel in all doses, purgatives, opium, quinine, ergot, atropia, gelseminum, aconite, cypripedium parviflorum, the calabar-bean, bromide of potassium, hydrate of chloral, ice to the head and spine, counter-irritation of every kind from the mildest stupes to the actual cautery, irrigation of the head, cold baths, hot baths, etc. Each and all of these methods of treatment have had their enthusiastic advocates. All have at times succeeded, and all have at times failed. Their advocates have almost all been in turn elated with hope, and then cast down by failure and repeated disappointment. It is certainly a fact, to be mentioned in this paper, that no method of treatment indiscriminately used has succeeded or will succeed. It must be the settled conviction of the wisest and the most judicious that any thing like a special or even routine treatment should be abandoned, and that the physician in this disease, as in all others, should be the rational practitioner; that he should remember he is dealing with an inflammation, and should act accordingly. It may

therefore be correctly said that while the best treatment, in the best hands and applied always at the correct time, must be largely unsuccessful, the treatment of this disease should have always a decided and uniform relation to the stage of the inflammation existing at the time. While blood-letting, cold affusions, mild purgatives, ergot, atropia, gelseminum, aconite, bromide of potassium, etc., may be distinctly indicated in the first or congestive stage of the inflammation, they must necessarily be very injurious, if not fatal in their results, if used after suppuration or extensive effusion has occurred. To systematize the treatment, it is respectfully suggested that in the early stages of the inflammation cautious blood-letting, either general or local, may be used, with cold applied externally, and with the use of such remedies as are known to relieve the vascular tension of the blood-vessels; these medicines being (as is well known by all) as follows: the preparations of ergot, atropia, the calabar-bean, bromide of potassium, aconite, gelseminum, etc. Counter-irritation or stupes may be applied to the neck and spine. Mild cathartics, with gentle stimulation of the functions of the liver and kidneys, are also applicable at this period. Low diet, quiet, the securing of sleep by hypnotics (other than the preparations of opium) should at this time claim the attention of the practitioner. This is really the only stage of the disease in which the physician can reasonably expect to accomplish any material benefit. Subsequently the use of quinine, the cautious use of stimulants, the systematic administration of nutritious diet, the securing of sleep and rest, etc., represent about all that can be done. Where effusion has occurred, and the patient does not succumb, the use of absorbents, external and constitutional, should of course be persistently tried. The patient thus treated is at least rationally treated, and the percentage of success will be found equally as good as that manifested under any method of treatment possible.

Mortality.—This varies in different epidemics and in different seasons and localities. It has varied from fifteen to eighty-five per cent. The average mortality is between forty and sixty per cent. The mortality is often greater even than that of Asiatic cholera.

Duration.—The disease varies in duration from one day to many months. Most patients die or are convalescent during the first week.

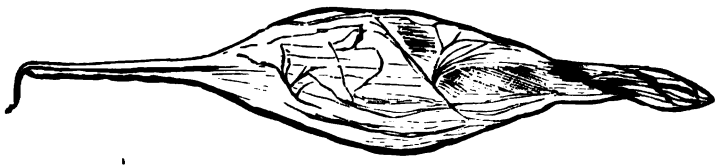
Diagnosis.—The diagnosis is not difficult—fever; severe occipital headache; nausea and vomiting, persistent and usually irremediable;

the retraction of the head; the peculiar delirium, with the absence of all typhus and typhoid phenomena; the purple spots; frequent cutaneous hyperæsthesia; pain referred to the spine and neck, with tenderness over the cerebro-spinal axis; these symptoms make up a picture complete and unmistakable.

Necropsy.—The post-mortem phenomena are well known and generally uniform—evidences of distinct congestion, or the results of great congestion; the usual phenomena of acute inflammation, plastic lymph, suppuration, adhesions, at times effusion into the ventricles. The base of the brain, as a rule, gives the greatest evidence of destructive inflammation. Of the meninges, the pia-mater is chiefly and most seriously involved.

Convalescence.—While occasionally this is uninterrupted, as a rule recovery is not only slow, but marked by frequent interruptions, and sometimes by dangerous complications. Every fact on record shows thus the extreme danger, as well as the extreme interest and importance of this horrible disease.

Trichocephalus-dispar.—In closing this paper there is perhaps as good an opportunity as could be offered of calling attention to a



[MAGNIFIED TEN DIAMETERS.]

singular incident occurring in a case attended by Dr. Larrabee, and at his request seen with him. The patient was the little boy to whom reference has been made in this paper as having suffered a series of nervous lesions, and having died about the seventeenth week of his attack. The mother of the child, seeing in his discharges a number of small moving objects, had the curiosity to examine a few of them carefully, and gave two of them to Dr. Larrabee and myself. One of these animated bodies was, through the courtesy of Dr. Kastenbine, examined with the microscope. After this examination he carefully made a correct drawing of the object examined. I had several excellent photographs of this drawing taken, and an engraving of it made. As will be seen, it is a picture of an entozoön, one seldom seen in the

United States, the trichocephalus-dispar. Watson, Wood, Tanner, Dunglison, Dickson, Roberts, Aitken, and Trousseau make no mention of its having ever been seen in this country. Dr. Austin Flint states he has not infrequently seen it in making post-mortems of those dying from typhoid fever.

While this parasite has been often seen in England, France, Italy, Egypt, and Ethiopia, it is believed that few American physicians have had the opportunity of seeing either the worm itself or a correct picture of it. There is a somewhat amusing incident connected with its history. It was at first supposed that the hair-like projection seen was the tail of the entozoön, and accordingly it was christened the trichinalis, or hair-tail. Subsequently the curious in such matters discovered that what was supposed to be the tail is really the head of the parasite. Consequently the creature is now known as the trichocephalus-dispar, or hair-head.

It is believed that the specimen photographed is below the medium size and length, and is most probably a specimen of the entozoön which had not arrived at maturity. As small as is the creature, it is known to propagate by oviparation; the eggs being oval with resisting shells, each having a diameter of the $\frac{1}{110}$ of an inch. Its habitat is usually the cæcum. It is said that this parasite is frequently seen in Paris, and it is probable that those of our countrymen who have spent much time abroad may be quite familiar with it.

NOTE.—I am aware that this paper is very imperfect. It has been prepared only because the preparation of it was promised. It was prepared almost at one sitting, and during a series of prolonged interruptions.

THE MEDICAL BORDER-LAND.

BY ANDREW MCFARLAND, M. D.

I give this title to the observations I present in order to indicate their field, which is that most interesting range trodden by both the pathologist and the psychopathist, and yet the exclusive ground of neither, and for that reason perhaps never as well explored as its great importance deserves. As in other border-lands, things within it are of uncertain status. The physician regards it as a land of phantoms and will-o'-the-wisps, given over to hysteria and hypochondriasis, and quite too shadowy for his more material touch; while the psychopathist views it as the cloudy region out of which many of his subjects have come, but which he feels no particular call to go back and explore. Hence it is virtually new ground, a sort of no-man's land, in the domain of medical science; and of its importance we shall better judge after bringing to the light some of the things it contains.

Let us before proceeding farther glance at the relation the brain and its appendages sustain to the mere physical organism daily brought to the practitioner's notice. The very first principles of our science reveal the immense mass of brain-matter in man, considered relatively to his bulk, over any thing else in animal creation—a mass utterly out of proportion to the demands of mere muscular movement. Dr. Brown-Séquard tells us that the normal expenditure of mere nerve-force is hardly more than one to the thousand of the brain's actual capacity for supply. As we know that nothing in nature is created in vain, we are led to inquire why this enormous excess of power for the uses now assigned it by the physiologist, and are there not other and wider demands than those usually considered? Do we not consign far too much of the brain-power to the purposes of what we term the cerebro-spinal system, and also confine that idea too exclusively to the function of motion and mere objective sensation?

Again, we are taught by these first principles how minute and yet how supreme is the intelligence and command of this presiding organ over its domain in man's physical system. We see its consummate control over mobility in the vocal organs of Nilsson, the fingers of Thalberg, and the limbs of Elssler; and how exact, almost beyond our conception, the response between the directing will and the executing muscle; and again, in the function of sensation we see that no needle-point is so fine that the brain does not get instant notice of its presence in the remotest tissue.

These familiar instances from the first elements of our knowledge are given only to show the potent and all-pervading influence of the brain in its control of the rest of the economy through agencies most direct. But when we come to that other system, the ganglionic, we find a yet wider field for the practitioner's attention, because its subtile disturbances interweave themselves more intimately with almost every thing he approaches. Equally intimate with and equally dependent on the brain as the other, we lose sight of its workings, in great measure, because they are more purely subjective. We seem to see and feel the brain as it operates through the cerebro-spinal system in outward sensation and muscular motion; but it works more nearly in the dark through the ganglionic. We may study the former in a multitude of ways—in the intensified nervo-muscular action of acute mania; in the irregular and involuntary action of chorea and epilepsy. We may study exalted states of sensation in hyperæsthesia, or we may witness interruption or suspension of one or both in paralysis. But of morbid action in the other system all the indications are indirect. Sensation of them is the most imperfect of guides, and leads us perpetually astray.

It is now more than thirty years since Dr. Marshall Hall cleared away many of our difficulties by his elucidation of the principles of reflex nervous action. We little realized at the time the magnitude of this discovery, till the later labors of Dr. Brown-Séquard have opened the field still wider; and we now begin to understand that we have investigated no case of physical disease properly till we know what part the brain is acting in its manifestations. We have always heard much of sympathies; of the body acting on mind, and mind upon body; but beyond the first crude idea of there being some fitful and altogether vague and uncertain connection between the two, of little

value save as a curiosity of observation, we have made no special advance. Instead of regarding the brain as the great central organ of man's being, which makes him all he is, for the exercise of which he was solely created, and for the support of which these stomachs, lungs, and livers were supplied as feeders, and quite subordinate, we assign it, in a medical point of view at least, to the performance of one single function, almost as distinct as that of the liver or the uterus. We regard it too much as a mere receiver of impressions, and not, as it really is, the great giver-off of all the forces whatever that keep in action the machinery of our intricate organization.

All of the functions of the human economy in a healthy state are but the evolution and exercise of this brain-force. Not only does it govern all muscular action, whether voluntary or involuntary, even to the moving of every fluid through artery, vein, and duct, but presides as well over digestion, assimilation, absorption, secretion, and excretion; in short, all functional processes whatever. The perfectly healthy state then is but little else than a full and equable distribution of brain-force; and throwing out those diseases resulting from specific blood-poisons, where the disease is but nature's effort to expel the morbific agent, we come to a wide range of cases, every day presented to the practitioner, where he must inquire how much of what he is called on to treat is due to suspension or unequal distribution of supply of this fundamental element.

Doubtless those who view these phenomena from the stand-point of brain-disease fully established have some advantage over those who must take them as they first appear. In the observation and treatment of nearly five thousand subjects of brain-disease in hospitals the writer has been struck by the all but universality of disturbance in some one or several of these physical functions.

Even among intelligent men in general practice nothing is more common than to find dyspepsia, amenorrhœa, and torpidity of the liver and intestinal canal assigned as causes of mental disease when they are due merely to arrest of brain-force from disease at its seat; and no physician in that specialty would think of applying remedies to any other end than the restoration of the brain to its normal vigor, well knowing that those arrested functions will resume their natural action as soon as the brain is in a state to furnish the force indispensable for their exercise. In such cases, with the brain's re-invigoration,

and never before, there is a return of easy digestion, regular intestinal action, and establishment of the menstrual orgasm. In the same category may also be included those abnormal states of the female organization, of which uterine displacement is the leading palpable symptom. The mass of these are due to want of healthy innervation alone; and the critical observer will generally find with them enough of disturbance of the mental operations, in an enfeebled will, irresolution of purpose, and impaired perception, to indicate their seat. The practitioner is apt to find his patient unstable, vacillating, and a ready prey to the empiric, who finds one of his best harvests in the weak-minded credulity of such patients. Indeed this class of cases is so well recognized as almost to deserve a special place in mental nosology. All the patient's thought becomes absorbed in the one idea of her disease, which the discourse of physicians has made but too visible to her mind's eye, till it has all the force of a monomaniacal impression. Every caller must hear the nature and history of all sensations, each recital of which of course deepens the diseased idea. Her greatest pleasure at last is to get as many new and different opinions as possible from as many different physicians, adding each to the former stock with as much relish as the bibliomaniac stores away a new book, and for the same profitless purpose. The last noted man of science and the last noted quack at length stand on a level in her demoralized estimate. Equally is she a connoisseur and a changeling in the matter of pessaries and supporters; till these men, these opinions, and these instruments become the staple of her discourse, of which she never wearies so long as listeners can be found. She acquires a morbid relish for disgusting recitals and more disgusting examinations, from which the healthy-minded shrink save as a last necessity. If this diseased condition becomes inveterate, or is continued for a long period, its seat becomes indicated to a demonstration in a further and more fully involved impairment of the mental powers; and hence a large and distinct class of admissions to our insane asylums. If they recover there, it is chiefly because the mind is forced out of the one deep rut through which all thought has been running toward the seat of the trouble, and because there are no well-meaning but unwise sympathizers to foster what have become to all intents and purposes absolute delusions. The summary destruction of some old, long-worn pessary, cherished for years as a life-necessity, is often the first act that breaks the spell.

There is hardly a greater source of error against which a practitioner should guard himself than that of false or perverted sensation on the part of his patient. He falls into it the more readily because the patient is often thoroughly self-deceived; and no impostor is so successful as the self-deceived one. A case in point in the writer's experience will illustrate this, cited the more readily because it excited much comment in the medical journals of the time and locality. A gentleman of family and undoubted purity of life conceived the delusion that he was the subject of a loathsome and disreputable disease. It was so manifestly an insane idea that he was placed for treatment in an asylum under the writer's care. By the use of escharotics and other agencies he had produced on his person as many evidences of such disease as his study and ingenuity could effect, even to the destruction of the septum of the nostrils, through which he would pass a nail, always carried in his pocket to convince the skeptical. Not receiving the treatment he incessantly demanded, by the exercise of great ingenuity he made his escape, and reached Boston with his nail in his pocket. Having a wholesome contempt of quackery, he sought for counsel the highest names in our profession, heading the list with that of Professor John C. Warren, and passing rapidly down the column of celebrities of that city; for his delusion seemed to carry him no further than talking over his case and getting the prescription. It would seem that he might have "gone through" the entire faculty of the city without detection if those consulted had not happened to compare notes, and thus discovered the imposition. This is, of course, the extreme case, and not likely often to occur; and yet in a minor degree the unthinking practitioner must often be liable to become the victim of the sincerity and earnestness of his self-deceived patient. If his patient is a stranger, and especially if the case be chronic, the cautious will always bring to the examination a wholesome distrust of sensations not supported by proofs other than the patient's word.

The practitioner should always be a discerner of human nature, enough to make allowance for the temperament of his patient; not using the term in its strict technical sense, but implying by it the manner in which impressions are received by the patient and expressed to his medical adviser. There is the constitutional stoic, for instance, who takes pride in his fortitude, makes light of what commen men would give way under, affects to treat every thing as of no importance,

and declares that he only seeks advice from foolish apprehensions of family and friends. Then we have his opposite, who runs as clearly to the other extreme, who exaggerates every sensation, and makes his sick-room a scene wherein to play off on the sympathies of physicians and attendants. These qualities are so natural in different individuals as to unconsciously shape the opinions of the medical adviser unless he cultivates the habit of always including the patient's mental state among the first subjects of inquiry.

Equally guarded should he be in dealing with another numerous class of applicants for advice, whose symptoms can not be referred to any thing his own investigation can establish of lesion of any organ, and yet where the patient's anxiety is quite beyond his (the practitioner's) ability to account for. The patient has perhaps taken his cue from some former prescriber, and locates his disease in his stomach, his liver, kidneys, or some other part hid away out of sight, becoming more convinced of the reality of his disease and his sufferings the oftener he has described them. Such patients are generally the victims of mere false sensations, referable to disturbances of the nervous organization, perhaps the results of noxious ingesta, like stimulants or tobacco in excess, though more often of secret abuse. Whenever symptoms complained of can not be located these possible sources of the trouble should not be overlooked.

In cases of protracted disease in the weaker sex, especially where the disease is peculiar to the sex, the practitioner should be on the sharp lookout that some second mind is not obtaining a dominant and morbid control over that of his enfeebled patient. Dickens, in that subtile discernment of life in which he seems to have had no equal since Shakespeare, has delineated the "Echo" with such truth of coloring as to lead us to believe that the character was drawn from something in his own domestic experiences. A Miggs and her pliable victim could not have been created except from some actual sitters for the portraits. But in this instance it was simply the influence of an evil over a weak mind, with nothing of disease as an element. In the experience of the physician the echo is found in the mother or sister of his patient, sometimes in an old or privileged servant, and sometimes in an officious neighbor. Her office is always the same—to hover perpetually about the patient with most pernicious sympathy, and suck out of her all self-reliance; to stand as her spokeswoman with the world

and her physician; to recount—of course in the patient's presence—the tale of her sufferings, with her own comments and additions, the burden of all which is that the sufferer is both an angel and a martyr, and only not completely so because of the echo's unremitting attentions. It is a curious proof that this relation is psychologically morbid that the echo is most generally after a time complaining of the same symptoms with her principal. No influence is more malign than the presence of this parasite, and the best efforts of the physician are frequently quite unavailing where it is tolerated. The writer knew of a case where the death of a fond husband and the marriage of the echo, both occurring nearly together, converted a woman, bed-ridden for fifteen years, at once into a pattern of activity and house-keeping energy. Every physician will recognize the echo, but few consider the absolutely diseased nature of the relation. In the child-bed state especially any attendant is preferable to the fond mother or sister, between whom and the patient this deadeniug relation is so easily set up.

The physician should always bear in mind, in approaching the bedside of his patient, that he is in the presence of one to a certain extent mentally as well as bodily diseased. He must take into lively account that fears, apprehensions, and distrusts are assuming a relation to the case in a degree altogether morbid. The bed of rest of itself alone is the haunted ground of phantoms, even to the most strong. Man stripped to his innermost garment, laid flat upon his back, with all his sovereignty vested in the nurse-girl, is a far different animal from the same when in sharp conflict of mind with his fellow in the world at large. How different was that Cæsar, booted and spurred, and leading his triumphant legions through Gaul, from the Cæsar who won the contempt of Cassius by his puling conduct when he had the fever in Spain! Remembering this, the physician will firmly hold, as centering on himself, all those dependent leanings to which a mind for the time being weakened resorts. In speaking of the echo we have shown how contemptible is often the resort of an enfeebled mind, and how fully all selfhood is given over to it. The physician will often fail of success unless he can gain such healthful moral mastery of his patient's mind as to allow these morbid offshoots to go no further than himself. We often see men with no claim for science whatever, and whose practice, could we follow it, would be found a series of blunders, running a long career of remarkable success, if judged by the standard

of fees. All mankind, and especially all womankind, swear by such a medical attendant as by a second Savior. The explanation of this must be that such individuals substitute for real professional skill the native tact or instinct that closes all the avenues of confidence that lead any where but to themselves. This art is not beneath the cultivation of the practitioner most scrupulous in honor as to the means employed; indeed the principles on which it is founded, having their existence in the mind itself, are in the highest degree worthy of study and application in every-day practice.

Just as the concluding passage in this paper is penned (April 4, 1874) the last popular lecture of Dr. Brown-Séquard, entitled "Power of the Imagination," comes to hand, and I quote a single extract bearing very forcibly on the point just urged.

"The cure of any illness," he says, "which does not depend on any disorganization of the tissues can often be accomplished when the patient *thinks* it can be done. If we physicians who treat patients every day had the power to make them believe they are cured, we certainly would obtain less fees than we do; and I must say the best of us would rejoice at it. There is no doubt at all that if we could give to patients the idea that they *are* to be cured, they would often *be* cured, especially if we could name a time for it, which is a great element in success. I have succeeded in this way sometimes, and I may say I succeed more now than formerly, because I have myself the faith that I can in giving faith effect a cure. I wish indeed that physicians who are younger men than myself, and who will have more time to study this question than I have, would take it up, especially in those cases in which there is a functional nervous affection only to deal with, as it is particularly, though not only, in those cases that a cure can be obtained. Indeed a cure may thus be obtained in certain organic affections; even in dropsy it may lead to a cure."

If the distinguished speaker above quoted had said, what his language strictly implies, that three fourths at least of all "functional nervous affection" is mental disease purely, he would have brought the truth into much smaller compass; and I may add, in view of what I have said before, that the difference between the dishonest user of these powers over an enfeebled mind and the honest one is that the former magnifies and makes perpetual the fiction of disease he is witness to, as a sure fountain of interminable fees, while the latter scatters

it away by wise efforts at mental invigoration, and supplies in its place the bright lights of confidence, assurance, and full hope in the end.

In closing let me urge that the study of sound psychological science be brought more generally among the essentials of a medical education. What is found in the text-books on medical theory and practice scarcely deserves the name. The literature of this branch of the profession is abundant, and its later issues quite able. The student will find himself at every step possessed of new powers of every-day use, especially in the diagnosis and prognosis of disease.

AN ABSTRACT OF SIX CASES OF OVARIOTOMY.

BY D. W. YANDELL, M. D.

My purpose in the present paper is simply to group such features of the several cases I am about to report as possess some special interest. The patients operated upon were aged respectively twenty-two, twenty-seven, thirty-one, thirty-three, forty-four, and sixty-five years. Three were residents of Louisville, one was of Texas, one of Glasgow, Ky., and one of Illinois. One was single, but has since married and borne two children; another, though married ten years, was childless; the other three were mothers of several children. Four of the six women were of unexceptionable constitution. The patient who was married but childless was of phthisical descent; had lost two brothers with pulmonary consumption; was thin, feeble, a non-consumer of fats, but without physical evidence of tubercles. The unmarried patient was extremely delicate, but without appreciable organic disease.

In one patient the tumor was discovered eight years before the operation; in another five years; in another three; while in the remaining three it was discovered but two years before. In four of the cases nothing unusual occurred from the time the tumor was discovered until it was removed. In one, while on the commode and pressing the abdomen with her hands, a sudden giving-way was experienced, and the parts, which had been hard and unyielding, became soft. For a moment she seemed relieved. In a little while, however, she had orthopnœa, passed into collapse, and death seemed imminent. After being in this condition for about fifteen hours she was tapped by the physician who saw her in consultation, and about twelve pints of serous fluid evacuated through an opening made below the umbilicus and a little to the left of the mesian line. The relief was immediate. Indeed she grew perceptibly more comfortable while the fluid was flowing. The whole train of urgent symptoms instantly disappeared; the patient passed into quiet sleep, from which she awoke easy and refreshed. In

three weeks after the operation she traveled from her home to Louisville, a distance of a hundred miles.

I removed a multilocular cyst of the right ovary from this patient the 3d of July, 1873. One portion of the cyst contained twenty-two pounds of dark grumous fluid, which escaped readily through the canula. The remaining portion of the tumor was composed of colloid material, distributed in lesser cysts, and of about the consistency of calf-foot's jelly. The contents of the tumor weighed twenty-eight pounds. The tumor, with a portion of the colloid mass remaining, weighed eleven pounds. The only noticeable adhesions were to the diaphragm and liver. These were sufficiently firm to require time and patience for their separation. The patient rallied fairly, and continued for two days reasonably well. At the end of this time vomiting set in, and continued well-nigh incessantly for nine days, resisting every means attempted for its control. Life was sustained during this dreary period by nutritive enemata. On the second day of the vomiting—the fourth day after the operation—there was marked abdominal tenderness, while a considerable gush of reddish serum from the lower angle of the wound followed each act of vomiting. The pulse rose to 130 and the temperature to 104°. I now began the use of intra-peritoneal injections after the manner recommended by Dr. Peaslee, and made them from three to six times in the twenty-four hours during the greater part of a month. If at any time the injections were omitted for more than six hours, the temperature would rise from three to six degrees. The fluid used for injection consisted of a very weak solution of permanganate of potash and carbolic acid. When the vomiting ceased the patient was put upon quinine and iron, and made a good recovery, returning home in nine weeks after the operation. Her health has steadily improved, and recent letters from her state that it is better than it had been at any other period of her history.

The second case presents the following interesting history in connection with the treatment of the tumor. Nearly nine years ago she first detected a tumor, about the size of a goose-egg, in the region of the right ovary. During five years its growth was so slow as scarcely to attract her attention. About that time it began to enlarge, and she had treatment for it. Many were the doctors consulted and the remedies used.

Throughout all this period the tumor remained movable. She could float it about in the abdominal cavity with her hand. She now went under the care of a traveling electrician, who undertook to disperse the tumor with his battery, following each sitting by the application to the os uteri of the solid nitrate of silver. The patient represents the treatment as having been painful beyond any language to describe it; but, being a woman of extraordinary heroism, she submitted to it for several months. On more than one occasion the pain was so overwhelming that she well-nigh fainted, while the tenderness and suffering frequently continued for days after the use of the battery.

I operated on this patient on the 4th of March last, emptying a unilocular cyst of thirty-seven pounds of purulent fluid. The cyst itself was adherent to the abdominal walls, to the bladder, and to almost the entire rim of the pelvis. No effort that I thought proper to make enabled me to separate the adhesions, except over a small space on the right side midway between the umbilicus and the pubis, and this to an extent barely sufficient to expose the intestines. In carrying my hand into the cyst I found that its anterior wall was firmly adherent so far above the umbilicus that I did not deem it expedient to try, by enlarging the original incision, to get above its superior attachments, though this I should have done but for the deeper-seated adhesions. I did attempt to peel the cyst from the peritonæum, as has been done so beautifully by Dr. W. L. Atlee, but failed. I excised a small portion of the cyst, closed the wound, introduced into the cyst a large drainage-tube, and endeavored, as in Ledran's operation, to keep the cyst open, and finally effect its obliteration under drainage and inflammation. The patient rallied well, and on the eleventh day was sitting up. Very large quantities of purulent fluid escaped daily through the tube. Injections of carbolated water were made morning and evening into the cyst. The tube was withdrawn occasionally, cleansed, and returned. On the fourteenth day the patient was walking about her room. On the sixteenth day the tube escaped from its place, and could not be returned by the nurse. Being absent from the city at the time, I found at the expiration of twenty-four hours that the opening had closed. I hoped, though clearly against hope, that the cyst would be obliterated. At the end of a week, however, I found I was mistaken. It had begun to refill. The patient had two sharp attacks of abdominal pain, with a sense of sinking, but without eleva-

tion of temperature or change of pulse. The tumor continued rapidly to enlarge, and on Saturday, the 4th of April, I withdrew by trocar and canula twelve pounds of fluid; the first of which was albuminous, the latter purulent. The patient experienced great relief from the operation, slept in comfort, and is again able to move about her room. Should the tumor refill—which in the nature of things it will almost surely do—I shall practice iodic injections with the view of closing, if possible, such portion of the growth as can collapse, and then open the remainder of the cyst through the roof of the vagina, as practiced so successfully by Dr. Noeggerath, of New York.*

Two of the six patients operated on have died: one on the sixth day, from general peritonitis; the other on the eighth day, from intestinal obstruction. In the latter instance—my fifth case—the pedicle was so short and the abdominal walls so thick that I deemed it best not to treat the pedicle externally, as I had done in my previous operations; but, after securing it, dropped it back into the abdominal cavity. There was not an untoward symptom in her case until the night of the fourth day, when tympanites and occasional vomiting of a dark-greenish fluid set it. The pulse and temperature remained unchanged. Dr. Hewitt, who saw the case with me the next day, pronounced it one of intestinal obstruction, and advised opium, belladonna, the rectal tube, and large warm-water enemata. The abdominal distension becoming enormous, the aspirator was used, but failed to give relief. The patient died on the morning of the eighth day. The autopsy (made by Dr. Roberts and one of my clinical assistants, Mr., now Dr., Splawn, of Louisiana) revealed the abdominal incision firmly united throughout its entire extent. There was neither fluid in the peritoneal cavity nor signs of inflammation; but the pedicle lay full against the ilio-cœcal valve, and by an abundant exudation of plastic lymph, firmly organized, had completely occluded this portion of the intestines. But for this untoward event there can be no doubt that this patient, the oldest but perhaps the stoutest of the series, would have made a perfect recovery.

In three of the patients the incision was six inches long. In one, which terminated fatally by peritonitis, it was but four inches long. In two it was necessary to make the larger incision. In one of these,

* American Journal of Obstetrics, May, 1869.

my first, the incision reached from the ensiform cartilage to the pubis. In four cases the pedicle was treated by what is known as Mr. Clay's method; that is, externally. In one it was dropped into the abdominal cavity. The other was an incomplete operation.

The weights of the several tumors removed were as follows: eighty-four pounds, sixty pounds, fifty-eight pounds, forty-two pounds, thirty-nine pounds. Five of the tumors were polycysts, one only being monocystic. Four of my patients lived and two died.

The entire series was operated on at St. Joseph's Infirmary, Louisville; and whatever success has been realized, much of it is due to the intelligent attentions of Sister Maud, the nurse, whose sleepless and unfailing kindness was bestowed upon them all. The first operation was done in May, 1870. The remaining five have been performed within the past eight months. The several operations were witnessed by Drs. Lewis and Coleman Rogers, Dr. Roberts, Drs. Owen and Mills, Dr. Ely McClellan, Dr. T. S. Bell, Dr. R. Brandeis, and Dr. Donhoff, to all of whom I wish here publicly to express my obligations.

REPORT ON REGISTRATION.

BY S. A. FOSS, M. D.

To the Kentucky State Medical Society:

Pursuing the plan approved of at Paducah, Ky., in the last annual meeting of this Society, your committee obtained, under difficnlties, the names and addresses of about twelve hundred physicians of this state, to whom they sent a brief circular, embracing our last report, a few paragraphs calling attention to the subject of registration, and the petition, with blank paper attached for signatures. In response we received signed petitions from forty-one or forty-two counties, from some counties as many as three or four petitions. But we regret to state that the number of physicians who signed the petitions was disproportionately small. They did not take an interest in registration commensurate with its importance. In fact more physicians signed the petition in Jefferson County than in all the other counties of the state. The entire number of signatures upon the petition left us in such a beggarly minority that we have as the result the imperfect registration law which we now present for your consideration.

AN ACT TO PROVIDE FOR THE REGISTRATION OF MARRIAGES, BIRTHS, AND DEATHS.

SEC. 1. *Be it enacted by the General Assembly of the Commonwealth of Kentucky*, That it shall be the duty of all clergymen or other persons who shall hereafter celebrate or perform the marriage ceremony within this commonwealth to keep a registry of all marriages celebrated by them, showing the names, ages, residence and place of birth of the persons married, whether they were single or widowed, and the time of the marriage.

SEC. 2. It shall be the duty of all physicians, surgeons, and midwives to keep a registry of all births and deaths at which they have professionally attended, showing in cases of birth the time and place of birth, name of the father and maiden name of the mother, and their residence, sex and color of the child, together with its name, if it shall receive one, and whether it was born alive or dead; and showing in cases of death the time, place, and cause of death, the name, age, sex, color,

and condition (whether single, married, or widowed), name and surname of parents, occupation, residence, and place of birth of the deceased: *Provided further*, that when two or more physicians, surgeons, or midwives may have attended professionally at any birth or death, that physician, surgeon, or midwife who is oldest in attendance shall make the registry.

SEC. 3. It shall be the duty of the clergymen, physicians, etc., above named to deposit in the county clerk's office of the counties in which such births, etc., occur, on or before the 10th day of January in every year, the said registry, or a copy thereof, embracing the period of one year, ending on the 31st day of December last preceding the time of deposit; and the clerk shall deliver copies of the same to the assessor.

SEC. 4. It shall be the duty of the assessors, while making their lists of taxable property, to ascertain and record in a list separate from the list of taxable property all the births, marriages, and deaths which shall have occurred within their respective counties in the twelve months ending on the 31st day of December last preceding the time of assessment, with all the items of time, place, etc., herein directed to be inserted in the registries above named; and they shall make strict inquiry of all heads of families, and shall use the registries of clergymen, etc., above named, in order to obtain correctly the information herein required. They shall return said lists of births, etc., with the registries of clergymen, etc., aforesaid, to the clerks of the county courts at the same time they return their lists of taxable property; and the clerks shall copy said lists of births, etc., and transmit the copies to the auditor of public accounts with the lists of taxable property. The clerks shall be paid at the same rates they are paid for copying the lists of taxable property. The assessor shall be allowed two cents for each birth, marriage, or death recorded as herein directed, to be paid in the same manner as for making the lists of taxable property: *Provided*, that it shall be lawful for any assessor to record separately the time, place, etc., of any birth, marriage, or death which may have occurred prior to the time which the list then being made embraces, or which may have occurred within this commonwealth. For every entry so made the party causing it to be done shall pay to the assessor five cents.

SEC. 5. It shall be the duty of the auditor to make from all the lists of births, marriages, and deaths so transmitted to him tabular statements, showing in condensed form the information herein required to be preserved, keeping the statistics of each county separate; and to cause five hundred copies of the same to be printed in pamphlet-form on or before the 1st day of January in every year; to transmit not more than five nor less than two copies to each county-court clerk's office in this commonwealth, one of which shall be forever carefully kept in such office and the remainder distributed for the use of the citizens of their respective counties. He shall cause to be printed suitable blanks for the use of assessors, clergymen, physicians, etc., with separate columns for each of the items of information herein required, and send a sufficient number of said blanks to the clerks of each county court for distribution. He shall annex to said blanks such instructions as he may deem necessary to secure the faithful execution of this act.

SEC. 6. To enable the assessors to obtain full and correct information touching the facts herein required to be ascertained, they shall have full power to swear and interrogate any person in their respective counties for that purpose; and it shall be the duty of all such persons when thereto required by the assessor, with or without

oath, to give him fully and truly all the information he or she may possess touching any of said facts.

SEC. 7. The several county-court clerks shall forever carefully preserve the lists of births, etc., and the registries of clergymen, etc., herein required to be returned to them, for the use of the public.

SEC. 8. The said lists of births, marriages, and deaths returned to the clerks of the county courts by the assessors, as also the original tabular record herein required to be kept and made by the auditor, or a duly certified copy of any birth, marriage, or death from either of them, given and certified by the keeper of such records, shall hereafter be admitted and received in all courts in this commonwealth as *prima facie* evidence of any such birth, marriage, or death therein recorded or so certified.

SEC. 9. Any person failing to discharge and perform any of the acts or duties herein imposed and required to be done shall for every such failure be fined in a sum not less than five nor more than twenty dollars, to be recovered by warrant before a justice of the peace or by presentment by the grand jury.

SEC. 10. This act to take effect from its passage.

It would afford your committee great pleasure to state to this Society that the foregoing is the best registration law we could devise, that ample appropriations had been made to defray the expenses of its execution, and that it rested on a sure foundation; but these things are not true.

You will observe, in the first place, that no sum of money is mentioned, but that the auditor of the state is charged with certain duties, his reward for which being left to a future General Assembly, who may give him much or little, as they choose. This is a double blunder. First, he ought never to have been appointed; not that he is not as good an auditor as any we ever had, but that no mere layman will make it a labor of love to analyze all of the facts and statistics gathered under this law, and make us a good report; and secondly, if appointed, his salary should have been fixed and liberal.

We think the law should be amended by creating the office of state registrar of births, marriages, and deaths, with a salary that will fairly pay him for the labor imposed.

While on the subject of cost of executing the law, it is proper to state that we understand this matter of expense was one of the reasons for repealing the old registration law of 1862, and that when on a visit to Frankfort to look after this matter of registration last winter that ardent friend of registration, Dr. Walton, of Hart County, told us that, notwithstanding the strength and number of our petitions, he was

absolutely afraid to put down in figures the probable cost of executing a registration law, lest the enterprise be defeated on that account.

Now we as an honorable profession ought not to want the people of Kentucky *cheated* into supporting a registration law. It is an old axiom that all laws are nugatory and idle without a public sentiment to sustain them. We want a public sentiment that will look the necessary expenses of an annual registration report squarely in the face and pay them cheerfully. We want a public sentiment that will do the same for a public board of health, and in addition give us a law under which we can obtain material for dissection. We are without that public sentiment now, and it rests with us as a profession whether we shall have it or not.

If we want a public sentiment that will aid us and sustain us in securing an accurate annual registration report, we must teach our patrons that registration will furnish and make permanent record of facts that will protect the rights of their children in the descent of property; that it will give us an infallible index to our military strength in case of draft or conscription; that it will furnish us the data by which to make life-tables, thereby securing accuracy in calculating annuities and a guide for life insurance; that all political economists look to the birth and marriage rates for evidence of the prosperity or adversity of our people; that its figures will dispel the delusions and misrepresentations made in regard to the salubrity or insalubrity of certain localities; that registration is the indispensable forerunner and stepping-stone to public hygiene. By it we ascertain the kind and amount of disease, thereby making its removal and prevention possible in the future.

In our endeavor to develop a public sentiment that will originate a state board of health, and cheerfully pay the small expenses incident to it, we should set our patrons a good example, and encourage them to follow it, by subscribing for the Sanitarian, edited by A. N. Bell, M. D., New York City—a most needed and welcome addition to our hygienic literature, and the only journal of the kind, we believe, published in the United States.

We should quote that devotee to sanitary science, Dr. Levin S. Joynes, of Richmond, Va., who says, "There is surely no evidence of public prosperity and power, of social well-being and progress, and of individual comfort and happiness so potent and all-pervading as

the *health of the people:* that integrity of body and mind which fits the laborer, the artisan, the merchant, and the professional man for the efficient and uninterrupted performance of their several parts in the complex operations of the social organism, and for the enjoyment of the pleasures of life; that Franklin said, 'Public health is public wealth;' that a community constantly enfeebled by sickness among those who perform all useful work and direct all useful enterprises can never be rich or prosperous; its productive power must fail, every public and private interest must languish, and its increase be retarded or wholly arrested."

We should remind our patrons that it is not our professional interest to devote ourselves to preventive medicines; for nothing could be so damaging to our professional incomes.

The same high authority gives us an inkling of the herculean task of saving the people from themselves. He says, "The mass of the people every where betray an astonishing ignorance and indifference with regard even to the more palpable causes of disease, and will seldom, of their own accord, take any steps for their extinction or mitigation."

This statement about the people of Virginia applies with equal force to the people of Kentucky. Yet we must not shirk a plain duty. They pay us annually between two and three million dollars for our advice and services, notwithstanding which twenty to twenty-three thousand of the people die—a very considerable per cent of which deaths (say twenty-five or thirty) are by our own admission preventable.

The common people have no time to study sanitary science; besides, we are the custodians of their health, and it is a resultant duty of ours to take care of it, and it should be our pleasure to educate them upon this and kindred topics.

Let us show them that while we are ever ready, day or night, to combat disease and sacrifice ourselves by exposure to the infection of the most deadly maladies, we have the magnanimity and philanthropy o prevent disease and totally destroy the incomes of our profession, f it were possible.

Let us cite them to such facts as these: that the *annual* expenses f the preventable diseases and deaths to the city of London, England, lirect and indirect, was *over* seven million dollars years ago; that the

sum of twenty-five million dollars is needlessly sacrificed in the same way in Lancashire; and that the United Kingdom suffered to the enormous amount of two hundred and seventy-five million dollars annually from neglecting proper sanitary precautions.

"A late English journal states that the cost to the city of Dublin of the recent epidemic of small-pox was one hundred and seventy-five thousand dollars. What shall we say then of the cost of the same disease to the city of Philadelphia and her citizens during the epidemic of 1871–2, when the deaths numbered more than four thousand and the cases not less than twenty thousand? And how sad the reflection that these ravages of a dreaded contagion were for the most part if not entirely *preventable*, having been due to the neglect of the simple sanitary measure of vaccination and re-vaccination, which, if thoroughly and seasonably practiced, would have prevented an epidemic altogether, or have reduced its ravages to insignificant proportions."

If any member doubts our ability to achieve these blessings of registration and of a state board of health, we answer that our profession numbers nearly three thousand, distributed in almost every voting-precinct in the state, having access to every house from the gubernatorial mansion down; and that the governor, United States senator, member of Congress, state senator, state representative, clergyman, judge, lawyer, and magistrate, down to the most degraded and abandoned of our race, each has his doctor, to whom he will listen and by whom he will be governed in a matter of this kind, if the doctor is not too indifferent or too indolent to tell the voter what he wants him to do in the premises. Before the next General Assembly meets, one physician in each county, by using one tenth of his leisure hours, has it in his power to fill up a petition in favor of amending this registration law and establishing a state board of health with the names of all the officials, ex-officials, clergymen, lawyers, doctors, and prominent citizens of his county; which petition will govern the votes of the person or persons representing that county.

We know this to be practicable. We have demonstrated it; for the chairman of this committee, with the aid of four young physicians, got up such a number and weight of petitions and so organized the friends of registration in Jefferson County, containing a population of nearly one hundred and fifty thousand, that the representative

who should have voted against it would have dug his own political grave.

It is the judgment of your committee, if we permit the next General Assembly to meet without specific instructions in regard to our wishes on this subject, that that body will be much more likely to repeal the defective law we now have than to go on and perfect it. But the power is in our own hands to insure success. If we fail, the odium of that failure will justly rest upon the physicians of Kentucky.

We fear there are some doubts and misunderstandings in the minds of our own profession in regard to registration. For example, that it will give publicity to our failures. This is a mistake. We should remember that the reasons for our failures are likely to reach as many people as our want of success will reach. This apprehension is natural; for who among us, young or old, apart from his grief at the loss of friends, has not trembled for fear of injury to his reputation, and consequent decrease in his income, when he has had an excessive mortality in his practice?

But do we not owe it alike to ourselves, our patrons, and the cause of medical science to look each yearly bill of mortality boldly in the face, and if we have made any mistakes, or if our neighbor has been more successful than ourselves, resolve to visit our neighbor and learn the reasons of his success? Taking for our motto, If any man any where knows any thing that we do not, visit him and learn.

Exceptionally there are physicians who think the keeping of these records are too burdensome to be borne without compensation. They surely are mistaken, for it does not take over two minutes to each birth or death to make all the entries required. Who among us is willing to admit that the mortality in his practice is so great that he can not spare two minutes to record each death? Who among us has an obstetric practice so great that he can not afford time to make the proper entries? If there is one, surely his income must be amply sufficient to enable him to employ a special clerk for that purpose.

DISEASES OF THE CONJUNCTIVA.

BY DUDLEY S. REYNOLDS, M. D.

Volumes have been written on the diseases of the cunjunctiva, and, strange though it may seem to many, the subject is far from being exhausted. As I will be able to mention but a very small number of those diseases, I have thought it most appropriate to devote my present report to the consideration of the affections which have been known to prevail endemically, and which furnish inoculable matter in the discharges from the inflamed surfaces.

In order to elucidate that portion of the subject to which my labors are to be confined in this report segregation becomes a sort of necessity; and this necessity pleads for your indulgence while I may be permitted to examine some of the anatomical features of the conjunctiva. Important morphological conditions of the membrane have suggested to anatomists the necessity of recognizing four different portions, which, fortunately for the therapeutist, are in different situations. The first division is called the *palpebral* portion, which is limited to the posterior surfaces of the tarsi. The palpebral conjunctiva is tense, firmly tied down to the tarsi by a short connective tissue void of fat. The only glands found here are the gland-cells lining the mucous follicles, and the lymph-corpuscles, found in the inner half of the membrane only. The lymphatics of this portion, if indeed they exist here at all, are so very rudimentary that Krause is the only histologist, so far as I know, who claims to have seen them. Metz says "the velvety appearance is caused by numerous round projections composed of bundles of the finest vascular loops, the termination of nerves, and a fine cellular tissue, but *no lymphatics*."*

The *retro-tarsal fold*, or cul-de-sac, is that portion which connects the palpebral to the ocular conjunctiva. It is richly endowed with

* The Anatomy and Histology of the Human Eye, p. 166. 1868.

papillæ, and is united to the parts beneath by a loose cellular tissue. In the upper palpebral fold are about forty-two and in the lower from two to six acinus glands, which furnish a secretion very nearly identical with the tears.

The *sclerotic conjunctiva* possesses no papillæ, no acini, and is well supplied with lymphatics. Upon the semilunar fold is situated a thick mass composed of sebaceous glands, a free admixture of fat-cells, and numerous hair-follicles containing fine hairs. This mass rests upon a minute plate of cartilage, and is known as the *caruncula lachrymalis.*

The *corneal conjunctiva* is composed entirely of epithelium, which is disposed in three layers, "the first a hyaline lamella of fused cells; beneath this a layer of cylindrical nucleated cells placed upright and closely arranged. The layer in immediate contact with the anterior elastic lamina of the cornea consists of round cells with large nuclei." In this portion are numerous wandering cells, precisely identical with those found in the substantia propria corneæ.

In the limbus, which serves to unite the sclerotic and corneal portions of the conjunctiva, are very numerous lymphatics and tufts of terminal nerves ending in clavate corpuscles. These clavate corpuscles are found in every portion of the conjunctiva except the corneal.

The tension of the palpebral conjunctiva keeps it from falling into folds; the absence of fat and sebaceous glands prevents the formation of abscesses. In the ocular conjunctiva there are no papillæ, and consequently no papillary inflammation can exist.

Having noted the chief points of difference between the conjunctiva and ordinary mucous membrane, it may not be amiss to consider what influence is exerted by mucus, pus, and neoplasms as elements of conjunctival disease.

Mucus is composed of cells precisely similar in form and appearance to pus-cells and white blood-corpuscles. In the microscopic characters of mucus, pus, white blood-corpuscles, and young epithelial cells there is this single difference: the young epithelial cell contains a single nucleus, while all the others are polynucleated. The young epithelial cell is not generally possessed of the distinct globular form common to the others, though it is sometimes; and as the nuclei constitute an infallible difference, I have laid particular emphasis upon that point.

Suppose, from some unknown cause, the conjunctival mucous membrane takes on a hyperæmic condition, followed in a few hours by copious lachrymation, with augmented mucous secretion, which, losing in a short time its fibrinous character, becomes superabundant and runs out over the edges of the lids. This is *purulent conjunctivitis;* and this purulent matter is as certainly inoculable as the matter from a variolous pustule. The very essence of this chain of morbid phenomena consists of processes of rapid cell-proliferation. Young epithelial cells are rapidly produced out of the underlying connective tissue, and are as rapidly detached; being detached in great numbers, warmth causes multiplication of nuclei, and this is mucus. Warmth continued, the fibrinous element undergoes putrescent change; and thus the matter is no longer mucus, but *pus.* Now as to the precise manner that purulent matter behaves when deposited on a mucous surface, in order to procreate purulent inflammation, is not known, and never will be until the contagious properties of matter can be accurately determined, which it would seem is one of the many things that is past finding out.

If the number of nuclei in a cell determines its power of proliferation, then the pus-cell above all others is endowed with powers of the most marvelously rapid multiplication, without power to enter upon a higher course of development, because there is no intercellular substance, nothing to hold the cells together, no woof for a web; in short, possessing the power of multiplication only.

Suppose the minutest particle of the granular detritus of a pus-cell is wafted by the wind into the eye; is it not possible for this to set up an irritation in the cellular elements of the conjunctiva precisely analogous to that which the minute particle of variolous matter sets up when placed under the epidermis? with this difference, however, the one will be limited in its action to the membrane upon which it is deposited, while the other may pervade the whole surface of the body.

Clinical experience proves that purulent ophthalmia prevails endemically, in the same sense that intermittent fever, cerebro-spinal meningitis, and diphtheria are said to have prevailed endemically. In that masterly treatise on diseases of the eye by William McKenzie may be found perhaps the best account of the clinical history of catarrhal and purulent ophthalmiæ which has ever appeared in the

English language, certainly the best which has been written within half a century. He says "the disease (muco-purulent conjunctivitis) is both endemic and epidemic; that it may arise in any region of the earth; but that it is most commonly prevalent in Egypt, Persia, and India; and does not arise from any specific principle or virus imported from Egypt. In the first instance it is excited by atmospheric or general causes; afterward it is propagated by contagion." Wells, McNamara, Lawson, Dixon, Travers, Graefe, Stellwag, Desmarres, Wecker, Galezowski, and in fact every body are agreed that catarrhal, purulent, papillary, and trachomatous ophthalmiæ are all species of the same genus; each one is contagious during the presence of pus in the discharges. In general terms I assert, as the established doctrine of almost the entire profession, that this multifarious disease prevails in the malarious regions of the earth, and nowhere else, except it be propagated by contagion; and this can be done in the form of pus only.

The time required for the production of purulent ophthalmia by inoculation varies from six to sixty hours; and the matter taken from a trachomatous surface may produce either of the other forms; so that there is really but one disease present, which may differ in degree of severity only, so far as the mucous surface is concerned. According to the most extended and recent observation the muco-purulent disease ranks, in point of severity and consequently in clinical importance, as follows: first, the purulent; second, the trachomatous; third, the papillary; fourth, the catarrhal—the catarrhal form frequently becoming in a short time purulent, trachomatous, or papillary; and sometimes all these stages or conditions seem to be present at the same time. Now all these varieties are, strictly speaking, purulent as soon as the first stage of the complaint has passed; but it should be borne in mind that where the first stage is of very short duration and the purulent discharge becomes copious the affection is called *purulent ophthalmia*, the catarrhal form or stage being that which is attended with hypersecretion of mucus unmixed with pus, and muco-purulent when the discharge is composed of both mucus and pus.

It has been and is now taught that in cases attended with chemosis death and subsequent sloughing of the cornea results from the pressure of the swollen conjunctiva overlapping the corneal margin. The late Mr. John Walker, surgeon to the Manchester Eye Hospital,

says,* "Travers, McKenzie, Middlemore, Tyrrel, and others are of opinion that pressure by the distended chemotic conjunctiva, preventing the passage of blood to the cornea, gives rise to mortification and sloughing." He then proceeds to explain "the extreme improbability of such an occurrence as death of the cornea from conjunctival swelling;" and concludes by declaring that he has "seen chemosis in every grade of intensity without corneal sloughing, and on the other hand every grade of corneal sloughing without any preceding chemosis."

In an outbreak of catarrhal ophthalmia among the inmates of the Protestant Episcopal Orphan Asylum of this city, in September, 1872—cases continuing to occur every now and then since that time—there were numerous cases in which the chemosis was very great, no incisions were made, and in no case was there even the slightest implication of the cornea.

I have seen numbers of iron-molders and machinists who, having met with the misfortune to get melted metal spattered into their eyes, had the greatest conceivable amount of chemosis, which persisted in two cases, the notes of which I preserved, for from eight to twelve days without any corneal implication whatever. I have long since ceased to be apprehensive of any sort of trouble from the presence of chemosis merely. The nature of the development of all the purulent forms of ophthalmia furnishes an explanation of the corneal ulceration entirely independent of any conjunctival swelling. The very essence of the disease in all its forms and stages consists in the proliferation of the epithelial and connective tissue-cells; and where there is this rapid cell-growth in the cornea the demand very soon exhausts the supply. There being none of the gland-cells here which exist in all mucous membranes, the subjacent connective tissue engages in the process of retrograde metamorphosis into pus, almost precisely as in the formation of abscess. It is an undeniable fact that in cases of purulent ophthalmia, attended with corneal ulceration, no similar destructive processes occur in the conjunctiva. The conjunctiva, in fact, never gives way to the advances of purulent inflammation.

And now the great question arises, *how* may this fell disease, so little less powerful than the dread angel of death, be *arrested* in its mad career as it stalks right on to the speedy destruction of sight?

*Oculist's Vade-Mecum, second edition, p. 28. London, 1857.

I answer in the name of thousands of trustworthy witnesses: alum, nitrate of silver, various salts of zinc, mercury, copper, the mineral acids, and all other drugs that have the property of *coagulating albumen!* How very remarkable that with the great advances the last quarter of a century has witnessed in pathological study some one had not hit upon the key to the solution of this great therapeutical question! *Coagulation of the discharges with no matter what, only taking care to keep the coagulating process in operation for a few hours, carefully and frequently removing the coagulated matter, and controlling the pain with anodynes, will not fail to arrest the disease.* And if this plan of treatment be begun in the very early stage of the disease, there will never save in extremely debilitated subjects be any corneal implication. It is scarcely necessary to support the position just taken by any extended examination of witnesses; brief allusion to a few, however, may serve to lift the veil of prejudice which has obscured the vision of so many thousands. In order then that the real purpose, for the accomplishment of which I am about to introduce some very stubborn witnesses, may not be misunderstood, I now declare that the application of caustic substances in the treatment of the purulent inflammations of the conjunctiva is an outrageously unwarrantable practice! There are no *authorities* in medicine. The mere *ipse dixit* of the greatest physician the world has ever produced is worth nothing! In this age, when the minutest atom of all the human organisms has been exposed to ocular inspection with the aid of the microscope, when almost every link in the chain of morbid action in every part of the body has been made to ring out its secrets in audible tones, we find facts so numerous that by a little care in their arrangement no one need be at a loss to correctly interpret every phase of disease and the best means of its relief; and especially is this true with respect to the diseases of those organs which are accessible to ocular inspection.

It is just a little curious that Sir William Adams with "a weak solution of alum, very frequently and thoroughly applied to the whole of the affected membrane," scarcely lost an eye, while Drs. Veitch, Travers, Desmarres, Roberts, Ridgeway, and others, who used nitrate of silver so systematically as to win golden opinions from the illustrious McKenzie, all *lost above forty per cent* of the eyes they treated. The accomplished Sir Patrick McGregor, who placed the world under obligations to him forever for introducing to the profession the prac-

tice of paracentesis corneæ, to save those eyes endangered by deep corneal ulcers, finally abandoned the silver treatment altogether. Mueller preferred a collyrium of three drops of sulphuric acid to the ounce of water, and believed that he had discovered an infallible remedy.

McKenzie makes a most judicious hit in suggesting one grain of corrosive sublimate and six grains of muriate of ammonia to from eight to twelve ounces of water, to be used very frequently as a cleansing wash. If Dr. Veitch had had the good judgment to adopt this, or the solution of alum so warmly advocated by Adams, or even the cold-water treatment so successful in the hands of the renowned Walther, we would find none of those melancholy accounts of the thousands of pensioners whose eyes were lost at Chelsea and Kilmainham hospitals. Any one who will read the accounts given by McGregor, Veitch, and others of the prevalence of muco-purulent ophthalmia in Great Britain after the return of the army from Egypt in 1800 can not fail to recognize the influence the treatment had in determining the fatal results. In 1804, when nitrate of silver was little used, and then in weak solution only, there was less fatality than in 1806, when nitrate of silver was used in very strong solution. "In the Second Battalion of the Fifty-second Regiment, numbering about seven hundred men, there were six hundred and thirty-six cases, including relapses, from August, 1805, to August, 1806. Of these fifty were dismissed with the loss of both eyes and forty with that of one." How many were seriously impaired by leucomata and peripheral perforations we are not informed; but it is reasonable to conclude that not more than one in five of all the cases with corneal implication resulted fatally to vision. Then we resonably conclude that not more than one in six escaped with sound corneæ. The returns of Chelsea and Kilmainham hospitals on the 1st of December, 1810, show that there were at that time two thousand three hundred and seventeen soldiers a burden upon the public in consequence of the loss of both eyes from Egyptian ophthalmia in those hospitals. Allowing the same proportion as that reported from the Fifty-second Regiment, there were also at the same time two thousand five hundred and forty-eight totally blind in one eye, making a grand total of four thousand eight hundred and sixty-five men disabled from active military service on account of blindness.

Dr. Antonio Savaresi, who had charge of the French military hospitals in Egypt, employed general antiphlogistic treatment, and used locally alum with anodyne lotions, frequently applied. His success was most wonderful. "*Out of one thousand cases only* TWO *persons lost both eyes.*" The general prostration from the active depletion practiced by Surgeon Savaresi, added to the Egyptian ophthalmia, right where the disease was endemic, destroyed the vision of *two persons only* out of a thousand cases—the local treatment consisting of *alum* and *anodynes*. Out of six hundred and thirty-six cases, including relapses—really about five hundred cases—in the Fifty-second Regiment, treated with *nitrate of silver*, FIFTY *persons lost both eyes*. And of all the cases treated at Chelsea and Kilmainham hospitals with nitrate of silver more than forty per cent lost their eyes. Walther, who used cold water alone, did not lose above six per cent out of several hundred cases.

The irrepressible desire on the part of some surgeons to arrest the disease at one stroke gradually led Drs. Ridgeway, Veitch, O'Halloran, and others to adopt the caustic treatment. The same cause has produced advocates of that fatal practice every now and then since that time; and whatever its advocates may claim for it, no one dare deny that in India, where the disease prevails with the greatest intensity, where the treatment consists entirely of vegetable astringent washes, there are exceedingly few blind persons to be seen.

In those severe cases of ophthalmia neonatorum, in which the disease assumes a sort of diphtheritic character, a saturated solution of common salt injected between the lids every half hour will sometimes arrest the disease almost as if by magic.

PAPILLARY CONJUNCTIVITIS AND TRACHOMA.

The papillary ophthalmia most frequently met with here is that which follows the mild forms of catarrh. In those cases the papillæ become engorged with blood, and remain so until sufficient inflammatory action occurs to produce hypertrophy, when the disease may be said to be chronic. Papillary conjunctivitis, so far as the enlarged papillæ are concerned, is developed in precisely the same manner as hemorrhoids. First, the veins becoming engorged, the papillæ, being made up mostly of veins, are consequently enlarged; presently the blood in these engorged veins begins to part with its serum; then

fibrin begins to be deposited, soon to be organized into callous tissue; and this is hypertrophy of the papillæ.

Trachoma is a much more serious form of disease; unlike papillary conjunctivitis, which is necessarily limited to the palpebræ, this generally begins in the retro-tarsal fold, rapidly extending to both the palpebral and ocular portions. It is now established that, instead of being an engorged state of the minute lymphatics, as taught by Krause, trachoma consists in the development of neoplasms out of the connective tissue-corpuscles.

This disease prevails extensively among the inmates of poor-houses, prisons, poorly-ventilated manufacturing establishments where great numbers of persons are crowded together, and those who inhabit the narrow lanes and overcrowded alleys in large cities. In Louisville there are certain localities where at certain seasons of the year nearly all the inhabitants are afflicted with trachoma at one time. On the first day of the present month (April) I prescribed for an entire family consisting of five members, all suffering with acute trachoma. There is, in my mind, no question about the correctness of Mr. Marston's conclusions in reference to the malarial origin of many cases of trachoma—all cases, in fact, that are not dependent upon some pre-existing form of disease.

The tendency of both papillary and trachomatous ophthalmiæ is to become chronic, spontaneous cures being rarely known. In a paper published in the American Practitioner for June, 1872, I took occasion to recommend warm fomentations, weak solutions of carbolic acid, and muriate of ammonia in the treatment of acute trachoma. Accumulated experience has served to strengthen my confidence in that plan of treatment. The almost constant presence of constipation, with an intermittent type of fever, generally of mild form, like that which is commonly called dumb ague, furnishes a most palpable indication of the demand for constitutional medication in most all acute, subacute, and even many chronic cases. If there is any one form of disease that may be successfully treated by a routine practice, it is acute trachoma as it prevails in Louisville. I have almost a constant habit of prescribing a purgative dose of calomel; quinine in full doses, to the production of quininism; muriate of ammonia, one drachm to the quart of warm water, as a wash three times a day; and a collyrium of three to five grains of carbolic acid to the ounce of water, to be

instilled into the eyes three to six times a day. Where this treatment is begun in the early stages of the disease little change will be found necessary in a vast majority of cases. If there be already some corneal abrasions from friction, canthoplasty should constitute the first step in the treatment. This operation is followed by the most prompt relief of all the distressing symptoms; and if the sutures be removed within twenty-four hours after their introduction, there will be no trace of the operation visible after a few weeks. Canthoplasty is to be reckoned among the greatest triumphs of modern surgery; certainly no other operation is more uniformly successful, and I know of none capable of conferring greater relief. It does what nothing else ever did; it almost infallibly cures chronic trachoma by arresting and preventing the possibility of a return of the blepharospasm which is ever present in these cases. During the year just past (1873) I did the canthoplastic operation *one hundred and eight times*, and it never disappointed me once.

The local treatment of papillary conjunctivitis must be regulated almost exclusively by the state of the vascular supply in the affected membrane—the crayon of sulphate of copper, with cold compresses, to-day; to-morrow, tannin or alum; next day, and it may be for a week to come, a collyrium of one to three grains of the chloride of zinc to the ounce of water, alternated with camphor-water lotion three times a day. Bad cases, associated with blepharospasm, require canthoplasty. In uncomplicated cases, where the papillæ are very large and succulent, I have found powdered tannin rubbed well into the chinks between the hypertrophied papillæ, and the lids carefully closed with a compressive bandage, and kept so for three or four hours after each application, to constitute a most rapidly successful plan of treatment. Another class of cases, attended with indurated palpebræ, may be successfully treated by applying a half-drachm solution of sulphate of copper or muriate of ammonia in substance to the everted lid, followed in six or eight hours by the tannin and compress. In still another class, where the papillæ are pale and flabby, by substituting a mixture of equal parts of alum and white sugar or calomel and white sugar for the tannin, most excellent results may be obtained. Without the aid of the compressive bandage to retain for a few hours the powder in contact with the diseased membrane, success will be the exception. After the removal of the bandage, if the eyes are found to

be oversensitive to light, or affected with an uncomfortable sense of dryness or heat, a lotion composed of half a drachm of borax to the pint of camphor-water, freely applied, will impart an almost immediate sense of relief.

In debilitated subjects no treatment will succeed without a general course of tonics, including outdoor exercise. The particular course of constitutional treatment to be pursued in each individual case is that which will readily suggest itself to the mind of any intelligent practitioner.

LOUISVILLE.

SUMMER COMPLAINTS OF CHILDREN.

BY J. A. LARRABEE, M. D.

The mortality among infants and children of tender age during our summer months has for a long time attracted the attention and sympathy of many good and great men in our profession. Indeed so great is the importance of this subject that I am rendered keenly susceptible of my own inadequacy in the presence of those so much better qualified than myself to do it justice. If, however, I am able to draw to my subject the attention which it deserves, I shall feel that my feeble efforts have not been wholly in vain.

The slaughter of helpless innocents upon the plains of Bethlehem, in that spring-time so long ago, in the days of the first Herod, still in our day awakens our sympathy, and calls down just condemnation upon that cruel and blood-thirsty tyrant. But a sterner and more relentless tyrant is in our land. Death—the subtle foe of the human race, more watchful than the cruel bandits of a Roman governor—stands ever ready at the cradle of early childhood to snatch his victim. So imperative is this claim upon the lives of children that by careful estimation it has been ascertained that one child in every five dies before the end of the first and one in every three before the end of the fifth year of its age.

Let not those pernicious ideas of modern society, whose baneful fruits we are now reaping, be brought to weigh against the importance of this subject. Let not the expression commonly heard, "There is no lack of babies," render us less mindful of this mortality; but rather let it be remembered that it concerns our own offspring—native born—whose citizenship, if permitted to mature, can never be replaced by foreign immigration.

Epidemics make their appearance at periods more or less fixed, and depopulate our cities and country; but they are occasional

visitors, and years intervene between the visitation of most of them. Even cholera malignans, that fell destroyer of our race, more potent than combined armies, more destructive than the deadliest weapons of modern warfare, observes this law; and if it has swept over the entire globe, it has also left a season of exemption and repose. But the mortality of our infant army attains its same figures every year. During a few weeks annually the fluttering insignia of death, with its spotless white pendant, is displayed from many homes; and the little graves which at this season fill our cemeteries bring forcibly to mind the words of the poet:

> "There is no flock, howe'er watched and tended,
> But one dead lamb is there;
> There is no fireside, howsoe'er defended,
> But has one vacant chair."

Besides, very many of the children who escape death in summer are so reduced and broken in constitution that they fall an easy prey to the chilling blasts of winter.

I have considered it better to group several diseases peculiar to the summer months in infancy and early childhood under the head of "Summer Complaints," therein including simple diarrhea, inflammatory diarrhea or dysentery, vomiting, and cholera infantum. It will be seen that in this group are included diseases and conditions by no means restricted or confined to childhood, but which are equally prevalent, although not equally fatal, in adult life. It is therefore more especially with regard to these diseases at a tender age of life that I shall have to do in this paper.

By far the most frequent ailment of the infant in summer is simple diarrhea. Many of these cases, under proper care and nursing, are soon restored to health, and are not seen by the physician. If, however, this condition be neglected and suffered to pass unnoticed, the system becomes greatly exhausted by the constant drain.

I am at a loss to account for the very popular idea and error, among a large class of the community, that because a child is "teething" a diarrhea should not be meddled with; but I am certain that many children fall victims annually to this mistake. However true it may be that looseness of the bowels is detergent to the brain, and therefore beneficial, it should always be remembered that such a diarrhea as would excite no uneasiness or apprehension in winter

may in summer rapidly pass the proper limits, and should never be overlooked.

Vomiting from undigested or improper food is also a frequent trouble of children at this season, and not unfrequently becomes persistent, requiring often the most skillful management. Whenever either or both of these conditions have continued long enough to produce extreme exhaustion, the case presents a more critical aspect, and it is most frequently in this stage, or when, as they are called, "brain-symptoms" have set in, that the physician is called to the case.

The well-known fatality of diseases of the brain and heart, whenever and wherever announced, is fully appreciated by the laity, and carries with it its own conviction. Besides, there seems to be a sort of consolation to the minds of the friends in the knowledge that the child upon whom has centered so much love and hopes of future years has died of an incurable disease. While I would not deny to the afflicted any consolation which they may find in such a thought, it is far better that the public as well as the physician should know that the brain-disease which terminates a case of protracted diarrhea is in most cases the result of exhaustion, which timely treatment might have avoided.

The importance of a correct understanding and diagnosis of the case in this late stage can not be overestimated, since the treatment based upon it may make all the difference between recovery and death. Cases which have been pronounced brain-disease, and given up to die of supposed brain-lesion, have recovered under proper medication and the judicious use of stimulants and nourishment; thus causing another and scarcely less serious error of boasted recovery in inflammation of the brain, meningitis, acute hydrocephalus, and the like, and throwing unjust discredit upon the honest practitioner, who may afterward have to do with a case of true inflammatory lesion of the brain in the same family or neighborhood. In the one case the altered and impoverished condition of the blood may be considered the only lesion, and recovery may and often will follow proper medication and careful attention. In the other the treatment required will be quite different, and the result, in all probability, will be fatal. Inflammatory diarrhea or dysentery may often follow and supervene upon an attack of simple diarrhea which has been allowed to remain unchecked and suffered to pass unnoticed. Although dysentery, or as it is commonly called

"flux," is *never* seen in childhood unattended by diarrhea, it must not on that account be inferred that it is simply a bad diarrhea, or that it may not arise idiopathically. Frequently its accession is sudden, and due to causes hereafter to be considered. High fever and vomiting, with frequent evacuation of the bowels, the passages at first often natural except in frequency and in their painful and forcible dejection, constitute the principal early symptoms. Later on the discharges are composed largely of mucous streaked with blood, not unfrequently containing pure blood, and small fecal lumps. There is great prostration, excessive thirst, and tenderness of the abdomen on pressure. These symptoms are alone sufficient to distinguish the disease from simple diarrhea; but the chief distinction is in the lesion which in dysentery is present in the colon, and which is not found in simple diarrhea. A frequent and annoying attendant in these cases is prolapsus of the anus and rectum. There are few diseases which more rapidly exhaust the powers of life than this.

By far the most dangerous and fatal disease of summer is cholera infantum, which is considered and recognized in America only. This condition or disease may also supervene upon an attack of diarrhea; but its accession in most cases is sudden, and so far as I have been able to observe, without premonition. The infant is put to rest at the usual hour perfectly well, and awakens, usually after midnight, with copious vomiting. Emesis is often the first symptom; a large watery stool follows, and the child that a few hours ago was the plump, round, laughing baby now lies with pallid cheek and sunken eye, almost lifeless, in its mother's lap. Thirst becomes an early and most distressing symptom, and if the child has sufficient power to take the breast, the milk is almost immediately vomited. The anxious expression and the earnest pleading for water—water, the protruded tongue and parched lips of the little sufferer, make a picture but too familiar to us all.

These diseases, thus briefly mentioned, make up the principal infant mortality of our large cities in summer, which exceeds for a few months the mortality from all causes and of all ages. While this is true of our cities, the reverse is true of the rural districts which surround them; so that when the general mortality is considered, as in the census, this infant mortality of towns is entirely outweighed by the healthfulness of country life.

Such being the facts gathered from reports upon vital statistics, we will briefly consider some of the causes which *tend* to these summer diseases and their consequent mortality. The particular season at which such diseases prevail is included between the months of June and September. The maximum mortality and consequently greatest prevalence occurs in the latter part of July and the first of August, and the age at which death oftenest occurs is about two years.

First therefore among the causes requiring our consideration is the high temperature and vitiated atmosphere of our large and populous cities at this season. In confirmation and further illustration of this important cause much may be learned from the published health reports, or rather death records, of our great national metropolis, which, on account of the rigid enforcement of sanitary ordinances, registration laws, and the co-operation of the common council with the health board, are perhaps the most reliable of any such records in this country.*

Selecting the last fortnight in July as best calculated to show this mortality, we find in these two weeks, beginning on the 19th of July and ending on the 2d day of August, the average number of deaths for these two weeks, between the years 1868 and 1873, inclusive, to be 1,797 from all causes and of all ages, and of this number we find 1,072 to be infants under two years, or 59.65 per cent, and 1,202 infants or children under five years of age, or 66.77 per cent. The temperature in these two weeks for the whole six years gives an average of 77.8° Fahrenheit's scale. Following these reports more in detail, and separating these two weeks in each year, we shall better illustrate the importance of the two causes under consideration. Thus we find that in 1868, with a mean temperature of 79°, the whole number of deaths from all causes to be 1,511, of which number 1,069 are of children under five years of age. In 1869, with an average temperature of 73°, we find the whole number of deaths to be 1,321, of which number 918 were children less than five years of age. In the year 1870, with a mean temperature of 81.93°, the whole number of deaths from all causes and of all ages in the two weeks mentioned amounts to 2,021, of which number 178 were marked sunstroke by physician's certificate and were in adults, and 1,224 were in children under five

*The figures here quoted are drawn from the weekly official reports of New York City.

years of age. This season will long be remembered throughout the United States as the hot season; but more especially was the effect of this great heat felt in New York City, where massive piles of brick and mortar closely wall the narrow streets. In the city of Brooklyn last July in a single week there were reported 399 deaths, of which number 230 were in children under five years of age, and 150 were testified by physician's certificate to be cases of cholera infantum.

We might thus extend these reports, and also figure over the reports of other large cities, but it seems to us unnecessary to accumulate statistics upon a point so clear and indisputable. Suffice it to say that reports from Chicago, Philadelphia, and St. Louis yield over fifty per centum of their deaths at this season to be of infants at these ages. In Louisville this infantile mortality, although fearfully large, is by no means as great in proportion to her population as it is in other large cities; and this is in exact conformity to hygienic laws, which, although not wholly understood, are unalterably fixed.

One has only to visit the crowded tenements, narrow sunless streets, and filthy alleys of most of our large cities in order to appreciate our own beautiful city with its broad streets, isolated dwellings, and air-spaces. But we have some streets that are not broad, alleys that are not clean, and houses densely populated in some portions of our fair city; and it has been our experience that where these conditions mostly prevail infant mortality attains its maximum. I recollect last summer to have seen six cases of cholera infantum within the limit of one side of a single square, along which every evening ran the slops and offal of a large brewery. Such causes seem to be more potent to produce disease in the infant, who has less power to throw them off, than the adult. Moreover, it is at this age that a rapid growth of the intestines takes place, which fact is of some importance in the distribution of the nerve-power. Again, in adult life we are seldom subjected to the same influences for any great length of time, but are constantly moving about as duty or inclination may dictate. Not so the infant. The heated room and vitiated air of a sleeping-apartment and the narrow limits of a cradle are too often the baby's portion of the free air of heaven. More especially is this true concerning the poorer classes, although the wealthy are not exempt from this fault; for what necessity compels in the one case fashion often dictates in the other, and in both "baby" is left too much at home.

When we consider that all animals whose habits are known to us have their respective climates in which they live and multiply, and out of which they degenerate and die, we are naturally enough astonished at our own mechanism, and reminded of the truthfulness of the words of that old and truthful historian of past ages, Mr. Gibbon, who, after reflecting upon the various climes into which the arts and arms of ancient Rome had been carried, said, "Man is the only animal which can live and multiply in every country from the equator to the poles."

Heat stimulates the circulation, while at the same time the respiration becomes embarrassed. Upon the liver then, the great laboratory of our bodies, falls the chief duty of decarbonizing the blood thus rendered impure, and of manufacturing bile.

Not only does an elevated temperature serve to weaken the powers of digestion, but by it the principal food and proper nourishment of the infant is so changed as to become a frequent cause of gastric and intestinal irritation.

Another and scarcely less annoying trouble resulting from long-continued heat and excessive action of the sweat-glands is the condition known as "prickly-heat" (*lichen tropicus*). When once this condition is fully established all thought of quiet and undisturbed repose must be banished. No hour of the night is exempt from its awful stinging and smarting, and by interfering with the required sleep of childhood it doubtless contributes sufficiently to the cause of disease to require this brief notice. Next in importance to the depressing effects of long-continued heat we are brought to the consideration of

Cold as a Cause.

As prejudicial as have seemed the effects, high temperature is to be preferred to any sudden change. A very prolific cause of the inflammatory diarrhea or dysentery, so prevalent in summer, is the sudden change of temperature in our unequal climate. In other words, the majority of the cases of intestinal flux which we are called upon to treat are the result of taking cold, to which there is an increased liability in hot weather. A sudden fall of the mercury of ten or twenty degrees causes unpleasant sensations of cold. While it has been recorded by arctic explorers that, although the men had from childhood been accustomed to warmer latitudes, when the temperature rose suddenly

from a point below zero to nine degrees below freezing the party were completely overcome and complained of the heat.

The comfort of the child in summer demands a light and airy dress, while the frequent and sudden changes necessitate a more careful watching than most mothers can give to their children. Not unfrequently the child, just awoke from a nap and covered with perspiration, is taken to an open door or window by its nurse, perhaps to watch the rainbow from a passing shower, or a draught of air is left to blow directly upon the infant sleeper. A sudden suppression of the perspiration and a fluxion to the viscera takes place, from which an attack of dysentery is quite sure to follow. Nurses are not apt to shorten the morning ride or walk of the child on account of its having fallen asleep; but continue to drag it about without the provision of an extra cover, which should always be taken along with the buggy.

Dentition as a Cause.

There can be little doubt that the first dentition figures largely as a cause of these diseases. A sympathetic connection exists between the glands of the mouth and those of the intestinal track; so that while the former are actively engaged in the secretion of saliva, the latter are in like manner engaged in the secretion of mucus.

The association of "summer complaints," and especially cholera infantum, with the "second summer" is such in the popular mind that this period carries with it an especial dread to every mother. Moreover, it is equally well established that infants who have cut their teeth in winter more frequently escape this summer sickness. When we consider that this single process of infantile life (dentition) is capable of exciting all the functions of the body, giving rise to epileptiform convulsions and even death, we can not certainly be surprised that the pressure of a tooth upon the bony canal or upon the gums is able to give rise to intestinal and gastric diseases, and we are fully convinced that in many cases dentition is the *fons et origo mali*, which the proper use of the gum-lancet has proven.

Another frequent and important cause is *unsuitable and improper food.* Up to the time and during the process of eruption of the first teeth milk, either from the mother or by artificial feeding, should constitute the only diet of the child. I think I am warranted in attaching importance to the word *only* in this connection; for

while we take it for granted that the child is getting proper food, we shall be astonished by a closer inspection of the nursery. A little "pap" stands ready for the baby when it cries, and a little "arrow-root" is at hand because it "is always such a good thing for babies." It is quite impossible for the infant to digest these starchy substances before the salivary glands are properly developed; and while it will allow its stomach to be filled with such food until colic or over-distension of the bowels compels it to stop, it will actually starve if compelled to depend upon this sort of food alone. It must be remembered that it is not the amount of food swallowed that gives nourishment, but the amount that is properly digested and assimilated. Not every cry of the child is from hunger; and the young and inexperienced mother should be advised to distinguish between the cries which proceed from hunger and those from overdistension of the stomach.

Weaning as a Cause.

Mothers, and especially those who are young and inexperienced, are often in doubt as to the propriety of weaning their infants during the summer months. This perplexity is not calculated to be lessened by the advice of intimate friends and nurses; one of whom declares that it will die if it be continued at the breast, while another of equal experience declares in an equally positive manner that it will die if it be not weaned; and at this juncture of affairs professional advice will most likely be sought.

The idea that the infant should be taken from the breast when it has arrived at a certain age is, it is to be hoped, no longer tolerated in intelligent communities. The absurdity of such advice needs no comment. With regard to the child's safety or exemption from the diseases under consideration, I would advise that the infant that is dependent upon the breast in June should not, unless there be other good reasons, be taken from it until the period of especial dread already mentioned be past. Nor need the return of menstruation or even the suspicion of pregnancy be considered a necessary exception to this rule so long as the milk appears to agree perfectly well with the child.

As the possible prevention of disease is of equal importance with its cure, and more especially as the means of prevention in these

diseases form so large and important a part of the cure, I may be pardoned for uniting under one head the subject of

Prophylaxis and Treatment.

With the statistics already quoted, and with the belief that wherever they can be obtained they will tell the same story, the question becomes one of concern to us, Are not many of these causes within our own control?

There can be no doubt that the rigid enforcement of sanitary laws and ordinances will greatly aid in reducing this summer mortality in our cities. The want of a registration law and the unreliability of our mortuary reports is much to be regretted.* Were it otherwise, I doubt not I should be able in Louisville to show by statistics the benefit resulting last summer from our cleanly city, and thus encourage the authorities to continue this good public work at all times, and not to delay until the pestilential foe has alarmed our outer gates.

The reports from New York City show a reduction in mortality from eight hundred and eighty-nine to six hundred and eighty-eight in a single week from the energetic action of the health officers in enforcing their ordinances; during which time the temperature and moisture of the atmosphere are seen to be nearly the same.

The excellent article of Dr. Toner contains the most valuable statistics upon this subject,† and the subject of "Free Parks and Camping-grounds," so ably and originally discussed by that author, not only deserves the praise of the profession, but it should also find its way into our legislative halls.

It was extremely gratifying last summer to read in the daily newspapers from eastern cities of "The Children's Fund," "Excursion Fund for Children," accounts of "The Children's Sea-side Home," and the like, supported by contribution. These are forms of benevolence in contributing to which rich people need not fear the misapplication of their money, nor can the worthiness of the charity be doubted.

*By the report of the Committee on Registration we have the satisfaction of knowing that the barrier to correct statistical information in Kentucky has been removed by the diligent action of this committee, and especially by the energy and perseverance of its chairman, Dr. S. A. Foss, of Liconia, and we hope that the operation of this law will not be delayed.

†See Northwestern Medical and Surgical Journal for November, 1872.

It would be quite impossible to overestimate the benefit of a proper exposure of infants and young children in pure fresh air—air free from the thousand contaminations of city life. The adaptation of climate to disease in adults has not yet received the attention and study it deserves from our profession. But in diseases of childhood such change of air becomes a matter of the first importance. It has been the privilege of the author to notice the benefit of slight and interrupted change of air upon sick infants, when such change has been obtained at only short distances from town and renewed each day. In all of these cases the effect has been out of all proportion to the distance of the removal, and in many cases resulted as beneficially as a prolonged visit to the country. Such results are oftentimes entirely beyond our comprehension, and appear to us more like the work of magic than reality.

During the "heated term" of last summer the opportunity for a daily airing in our city was facilitated by the extension of a line of horse-railway, through elevated field and woodland, some four or five miles into the country. All, without an exception, of the infants under my treatment for summer complaints who by my advice were taken over this road each day were greatly benefited, and in not a few of the most troublesome cases it was found unnecessary to resort to medication after the first trip.

The trips made daily a few miles "up river" at sunset by the steam-ferry company were of incalculable benefit to the few children who were taken. Infants brought on board languid or peevish and exhausted were noticed to brighten up and even become gleeful on the return trip, and I doubt not slept better for their airing.

These excursions, however, were not extended so as to reach a large class of our people to whom they would be of most benefit. The park-land surrounding the water-works and reservoir affords an easy and convenient retreat for our citizens, while many more among the poorer classes might avail themselves of the pleasant shade of parks and public lawns in the city, none of which should be closed to the public at this season of the year.

The advancement of conservative medicine through the writings and teachings of good and true men in the profession has wrought a great and beneficial change in our practice, and has taught us to more fully appreciate the *vis naturix* over the diseases of childhood,

Nevertheless it will be found necessary to use some medicines in these diseases. Without therefore attempting to mention all the drugs by some termed "remedies," I will briefly notice some of the means which have proven beneficial in my hands.

In a simple attack of vomiting, whether accompanied by diarrhea or not, the child, if it be nursing, should be taken from the breast, and its thirst relieved and nourishment supplied by a little plain barley-water, given cold and often, to which a little pure brandy may be added if there be symptoms of exhaustion. In many cases no other treatment will be required. But unless we are careful to give these directions the infant will be allowed to draw the breast almost continuously, and no medicine will be of advantage while it continues to introduce into its stomach a fresh source of irritation. If it should be found necessary to give medicine, a small dose of the mild chloride of mercury, rubbed up with a little white sugar and pepsin, may be placed on the tongue at short intervals. Bismuth and cerium sometimes succeed in allaying obstinate vomiting; but with the small doses of calomel and attention to diet it will seldom be found necessary to resort to other means.

Lime-water should be given with the milk when the diet is restored, and continued until all acidity of the stomach passes away. I have often found benefit from a few grains of bicarbonate of potash in the barley-water.

Whatever may be said of mercurials, and however much discredit has been attached to *calomel*, from its abuse and ignorant even reckless use in days gone by, it is quite indispensable in infantile practice. It is not our purpose to discuss the *modus operandi* of a drug which has been the subject of so great extremes in the profession, and which has alike evoked its praise and abuse, whether or not recent experiments upon the lower animals have been thought to detract from its cholagogue fame. It is sufficient for our purpose that its administration is followed by bilious stools, commonly bright-yellow, but oftener greenish in early childhood, from the presence of acid in the *prima via*, and that we have found infants quite insusceptible to its sialogogue action.

When we say "small doses" of calomel we do not mean to be understood one or two grains, but oftener the eighth or the twelfth of a grain, in which doses it appears to act as a charm. In cases

where the diarrhea and vomiting are associated with the eruption of one or more of the teeth, the symptoms are mostly of a nervous character, and the child is unusually restless and peevish; the best results follow the use of the gum-lancet and the administration of the bromide of potassium. Rubbing the gums frequently with a solution of the bromide, a scruple to the ounce of water, has produced so much relief that it is worthy of mention.

There is a nervous element in this form of summer complaint which yields readily to the bromide. The diarrhea and vomiting are both controlled by it, and it has proven so beneficial in a large number of cases that a formula may not be altogether out of place. I would say, however, that we deprecate set formulas, always modifying dose and medicine to suit each case, and always endeavoring to make medicine for children as pleasant as possible. With this view, the following may be a guide:

℞. Potasii bromidi, ... ℈j vel ʒss;
Aquæ feniculi vel anisi, ... ʒjss;
Syrupi acaciæ, ... ʒss;
Tr. opii camph., ... ʒj.
Misce—Sumat cochleare parvum tertiâ vel secunda quâque hora.

The effect of opium in quieting peristaltic action of the bowels, as well as in allaying pain, will present an urgent claim for its use in intestinal diseases. Great caution and discrimination, however, are required in its use, and whenever it is necessary to make use of opium or any of its preparations the extreme susceptibility of infants to this drug and its effect in diminishing secretion should be taken into consideration.

Where opium is contra-indicated on account of cerebral congestion or fears of inflammatory trouble within the cranium, with threatened convulsions, very satisfactory results have followed the administration of a reliable tincture of hyoscyamus, in combination with other medicines, especially with the bromides.

When, however, the child is disturbed by intestinal irritation, with a weak pulse and slight muscular twitching, a dose of Dover's powder, suited to the age of the patient, is the charm. It is in the chronic stage of diarrhea, with extreme emaciation, where the skin, from wasting of the subcutaneous tissue, becomes wrinkled and loosely

envelops the bone, or is drawn tightly over the joints and prominences, that our patience will be mostly tried and our medical skill exhausted. What a pitiable sight is often presented to us by these little sufferers, with their skeleton frames and leaden eyes, whose fountains are so completely dried that the plaintive cry brings no tear to its relief. Yet these children oftentimes have a surprisingly good appetite, and we are oftentimes informed that they eat voraciously, and sometimes the most astonishing improvement follows a change of diet, suggested by the cravings of the child for some article which has hitherto been denied it. While I do not think that every thing the child asks or makes signs for should be given to it, any more than every appetite in adult diseases of the same class should be gratified, yet there is enough in these desires of the appetite to invite a closer attention to the proper assimilation of food.

The physician who contents himself with a simple inquiry in regard to the character and frequency of the stools will be often misled, and will always deprive himself of most important knowledge. The napkins of the infant and the evacuations of the child should be made a matter of daily observation. I have always insisted upon this examination in infantile practice, by which more valuable information can be derived as to the nature of the case than could possibly be obtained from any interrogation.

A piece of raw beefsteak, scraped with a knife until reduced to a fine pulp, sprinkled with a little white sugar and pepsin, is generally relished and digested, provided the child be of proper age for animal food. In cases where from any cause the child is obliged to be nourished independent of its mother the condensed milk ("Borden's Eagle brand") has the great advantage that it may be prepared fresh at each feeding, and is not therefore liable to the change which with the best care will take place at this season in milk from the cow or wagons. Besides, so far as I have made use of it, in ten or twelve cases it has supplied better nourishment, and is sweeter. The cases here referred to were put upon this milk soon after birth, on account of the inability of their mothers to nurse them. These infants are now from twelve to sixteen months old, and with a single exception passed through the heated term of last summer without trouble; their flesh is round and plump, and their appearance is that of well-nourished children. In my judgment, the use of this preparation

of milk, by means of a proper "feeding-bottle" (the simplest is always to be preferred), properly cleansed with bicarbonate of soda after each feeding, is preferable to the employment of a "wet-nurse," whose tendencies to disease can never be known. The daily bath should not be neglected. Next to pure air and wholesome food comes *cleanliness of the body*. The addition of salt and tanbark to the bath is sometimes of benefit. In cases where the emaciation is great I have seen benefit from inunction of cod-liver oil after the bath. The bath is of greatest advantage in these chronic cases, with an earthy complexion and toady skin, if I am allowed thus to express its appearance. A little dilute nitro-muriatic acid may be of advantage in this way, or the bath may be made ferruginous by adding the tincture of ferri chloridi. In order to be of advantage, the child should remain in the bath, its body submerged, for fifteen minutes. The temperature of the room should be about 70°, and the bath 95° to 98°. To enumerate the list of vegetable astringents which have been and will still continue to be used in these chronic cases would be useless and supererogatory. Suffice it to say that as they depend upon the same principle for their astringency, there is little choice in them, and the practitioner will most likely use that which succeeded in the last case, and which will be pretty certain to disappoint him in the next.

There is one of the mineral tonics and astringents to which I would invite especial attention on account of the uniform good results which have attended its administration in quite a large number of cases which have come under my observation, many of which were regarded as entirely hopeless and were given up by the attendant. This agent is the nitrate of silver crystallized according to the U. S. P. It is mostly suited to the chronic stage of diarrhea when to the symptoms already mentioned we have added the red and glazed tongue and other unmistakable signs of ulceration, although many cases occur to my mind in which its prompt action has been highly gratifying in the more recent cases of diarrhea and in cholera infantum.

The particular manner in which the different preparations of silver act in producing a tonic effect is not altogether easy of explanation, nor is it essential in this article. Its action in these cases is astringent and tonic, and I have had no reason to fear discoloration of the skin from the small amount which I have found necessary to use in con-

trolling and curing the diarrhea, although it is probable that small doses are more readily dissolved in the albumen and enter more readily into the tissues.

The following is the mode in which I have administered this salt:* Dissolve a fourth or half a grain of the pure crystals in an ounce of distilled water. An ounce of syrup of acacia is then added, with or without a few drops of paregoric. A tea-spoonful of this mixture is directed to be given every two hours, or after each liquid stool; the latter plan is better, as the stools soon diminish in frequency. The fontanels in these chronic cases will generally be found depressed, and in this condition stimulants will be well borne and will do good.

Port wine made into negus fills this indication better than stronger liquor. A single drop of Fowler's solution in a little sweetened water, taken after the principal meal, gives tone to the stomach, and I have certainly seen benefit from it. The same may be said of a single drop of wine of ipecac. As a tonic after the bowels have been regulated nothing has done better in my hands than the liquor ferri pernitratis. During convalescence from chronic diarrhea and wasting the abdomen ought to be covered with a flannel bandage, or a quilted pad with pulverized Peruvian bark may be worn.

In all acute diseases of childhood it is very essential that the physician should visit his little patients more frequently than would perhaps be necessary in adult practice. Especially is this true in inflammatory diarrhea or dysentery, the management of which in the severe and more violent forms not unfrequently calls into action all our skill and judgment. On account of the liability to a sudden change or the supervention of sudden prostration, the physician should, if possible, make more than one visit to such a case in the twenty-four hours. In the commencement of dysentery or dysenteric diarrhea, with great heat and dryness of the skin, a warm bath containing a little mustard may be ordered, and the effect kept up by the application of flannels wrung out of hot laudanum-water (about the strength of poppy decoction) to the abdomen; at the same time a dose (one or two drachms) of castor-oil rubbed up well with syrup of acacia and a few drops of laudanum may be given.

The child should not be taken up and placed upon the vessel to pass its stool, and the young infant should be allowed to pass its

* For an infant six months to one year of age.

motions while lying upon its back in the nurse's lap. The most troublesome symptom is the tenesmus, which will be very considerably increased by the sitting posture; moreover, by attention to this precaution a very distressing and annoying complication (prolapsus ani) may be avoided. If the cases bid fair to prove intractable, the early use of the mineral acids and astringents will be required. Of the former class I have found the nitrous acid, as it was originally given by Dr. Hope in his justly celebrated "camphor mixture," to meet the indication well; and from the latter class the acetate of lead has proven of the greatest advantage. It is perhaps needless for me to say that it should not be used at the same time with the acids, as it so easily unites with them and loses its effect. From one half to a grain, dissolved in distilled water and rubbed up with syrup of acacia and a little paregoric, may be given to an infant, and repeated at suitable intervals. The incompatibility of opium with lead in mixture seems to be no disadvantage to its therapeutical effect. Given in this way, lead seems not only to act as an astringent, controlling the frequency of the stools, but also to have a very pleasant sedative effect upon the mucous membrane of the stomach and bowels. When there is entire absence of bile from the stools for some time the small doses of the mild chloride already referred to may and should be given. It can be given with the lead. Although I have made use of this preparation of lead whenever it seemed necessary, I have never seen any injurious effects.

In the later stages of the disease, when there is reason to fear that ulceration of the bowels has occurred, and the tongue is dry and glazed, or in a relapse of the disease, turpentine should be used. In all diseases involving the mucous membrane of the intestines *turpentine* is the best astringent, stimulant, and alterative in our whole materia medica. It may be best administered in emulsion with acacia, cinnamon-water, with the proportionate dose of laudanum. Weak injections of nitrate of silver with starch-water and laudanum are sometimes of undoubted benefit. Indications for the use of bark or quinia will frequently appear even in very young children. The treatment of dysentery by salines and large doses of ipecac, so far as my observation goes, has not yielded so favorable results as its advocates have claimed for it.

In the vomiting and purging of cholera infantum I have found no means so effectual, both in arresting the vomiting and controlling the

diarrhea, as calomel. The one sixth or one fourth of a grain rubbed up with a grain of white sugar may be placed on the tongue every few minutes until the vomiting is arrested, or the appearance of bile in the stool assures us of its effect and at the same time of the safety of the child. Flannels wrung out of hot mustard-water should be wrapped around the body until the skin responds to their action. Iced barley-water may be given a little at a time and often to relieve the intolerable thirst. Opium can do no good in these cases, and is often productive of great harm.

In collapse, and before convulsions have occurred, pure brandy may be given, and efforts to determine to the surface vigorously pushed. The powerful effects of nitrite of amyl over the circulation and its instantaneous action suggests to the mind of the author its cautious use in these entirely hopeless cases. I have not, however, had an opportunity to use it.

During convalescence most careful attention must be paid to the diet. And in conclusion I beg leave to call attention once more to the great importance of a change of air and a removal of the child from the noxious influences already mentioned.

CALCULUS IN THE FEMALE BLADDER.

BY R. H. GALE, M. D.

In looking over the extended field of human ills and sufferings our minds are instinctively brought to reflect upon the means to palliate or relieve them, and the present advanced condition of the science of medicine and surgery has tended to simplify to a great extent the *modus operandi* of their treatment.

In no branch of our profession has more progress been made than in the diseases peculiar to the fair and feebler portion of our race; a result to be looked for from the fact that they are our household gods, at whose shrine we all worship, and from whence spring the many cheerful feelings and joyous scenes of our homes, made radiant by their bright, sunlit faces, beaming with health and happiness. But let disease invade its precincts, and entwine its loathsome coils around those whose peculiar province is within the portals of the home-circle, and a deep gloom settles over that fair haven where man seeks his solace from the busy hum and toil of a noisy world. His mind turns intuitively in the direction of relief, hoping to secure some means to dispel and remove the dark cloud.

In addition to the diseases belonging alone to woman from her peculiar organism there are others common alike to both sexes, upon which much time and close study has been given and great improvement attained in their treatment, among which is *calculus*, or stone in the bladder.

Knowing the inherent powers with which nature has endowed the various tissues of the human body, and the properties of endurance and reparation, we are induced to tax them, instead of resorting to more violent means; such as division of continuity of structure, and its consequent troubles and dangers. I have been led to believe that by relying upon the elastic properties of the muscular fibers dilatation

could be carried to such an extent that almost any stone could be removed from the female bladder whole, or by crushing and removing portions at a time. I know not how far it can be carried or limit fixed. The only danger to be apprehended is incontinence of urine by a failure of the muscular fiber to regain its contractile power, and the cystic trouble arising from the necessary manipulation, exciting the already existing tendency to inflammatory action, caused from the presence of a foreign body there. The ability to do this without seriously compromising life is almost indefinite. I do not believe we have any definite information with reference to the extent that patient dilatation can enlarge the female urethra and yet not destroy its integrity, so that it may recover its tone, and cystitis be avoided or controlled.

In support of these views I herewith report two cases, which seem to go beyond the size that surgeons have heretofore considered it safe to attempt removal without the use of the knife.

One was reported to me by Dr. J. H. White, of Richmond, Va. The dilatation in this case was effected by taking the female metallic nozzle of a Davidson syringe, scraped down to the size of a No. 8 sound, the end cut off, then slightly curving to resemble a female catheter; over this was fastened a thin gum bag, and after being introduced into the urethra the bag was gradually distended with warm water by means of a Davidson syringe. The patient being under the influence of chloroform, the urethra was easily dilated in five minutes so that the index finger was introduced within the bladder, and by hooking it around the stone, which was lodged in the bas-fond of the bladder, and with the aid of the index finger of the other hand in the vagina, the stone was easily removed without the aid of forceps. It was of the phosphatic variety, and measured about one inch in its long and three fourths of an inch in its short diameter. The sphincter muscles contracted at once, and no dribbling of urine followed. The operation was performed August 15, 1872.

The other case came into my hands in May, 1872, and in this case the dilatation was effected by first introducing a common-sized female catheter covered with ointment of belladonna; after this a larger-sized catheter; and then the index finger was well anointed with ointment, and the ball placed over the mouth of the urethra, when a thread-like ring was felt, which soon gave way, and the finger passed into the

bladder, and the stone found lodged in the bas-fond. The finger was then withdrawn, and an ordinary pair of uterine dressing-forceps were easily introduced, and the stone grasped without difficulty. The handles were then fixed with a piece of stout tape, and held in the left hand; the index and middle finger of the right hand was passed into the vagina, and up and behind the stone, and with gentle pressure with the fingers and traction upon the forceps the stone was easily extracted. It weighed one ounce, and measured one and a half inches in its long and one and a quarter inches in its short diameter.

No chloroform or any other anæsthetic was used, on account of the patient's declining to take it, and in less than thirty minutes from the time the patient was placed on her back, with knees well flexed, the operation was over and she replaced in bed.

The sphincter muscles in this case contracted promptly. No dribbling or incontinence of urine supervened. An ordinary catheter was introduced and about four ounces of mucilage of elm-bark thrown into the bladder, which was repeated three times daily for two or three days. Cold cloths were kept over the lower portion of the abdomen and the vulva for the same time. One fourth of a grain of morphia sulphas was given, and repeated in four hours. Quiet was produced and refreshing sleep supervened. The bowels were moved daily with saline cathartics, and I had the satisfaction of seeing my patient free from any inflammatory action about the bladder or adjacent tissues.

Some weeks after this operation I had an opportunity, in connection with Drs. A. Toon, J. L. Martin, and W. P. Tinsley, of making a post-mortem examination of this same patient, she having died from acute hepatitis. The autopsy revealed no lesions of any kind about the bladder or adjacent organs.

ALBUMINURIA.

BY WILLIAM BAILEY, M. D.

Dr. Richard Bright made a valuable contribution to pathology and practical medicine by his "Report of Medical Cases," published in the year 1827, in which he showed that the relation so often observed between the dropsies and albuminuria depended upon certain organic changes in the kidneys. Since his publications many of the great men of our profession have labored zealously and successfully in the field of renal pathology. Much additional light has been shed upon these investigations by chemistry and microscopy. Notwithstanding these important labors and the consequent advancement in our knowledge of renal pathology, yet the terms *albuminuria* and *morbus Brightii* do not convey to the mind of the practitioner any very definite idea as to pathology. We have had during late years several important contributions upon this subject by such men as Johnson, Roberts, Dickinson, Harley, Flint, Grainger Stewart, etc. Every one feels that it would be profitable to have the main characteristics and differentia presented within a narrower space, and thereby made more available to the ordinary practitioner of medicine, for his time and facilities will not afford him a careful perusal of these extended monographs Hope to accomplish this result, rather than to present any thing new upon this important subject, prompts this essay to-day.

If time and your patience allowed, I should be pleased to premise what I shall say by an extended consideration of the physiology and minute anatomy of the kidneys; but I must content myself with a very imperfect statement in relation thereto. I will take for granted your familiar acquaintance with the position, size, and general appearance of the kidneys, but will refresh your memories as to the three elements constituting the organ.

We have a secreting structure, blood-vessels, and connective tissue. In speaking more minutely of these structures we will also state what

we deem essential as to function. The secreting structures consist of the convoluted uriniferous tubes of Ferrein, lined by mucous membrane. These go largely toward making up the cortical portion of the kidneys, and terminate in the capsules of the malpighian corpuscles. In addition to the convoluted tubes we have in the medullary portion the straight tubes of Bellini, calyses, infundibula, and pelvis. These last, together with the ureter, bladder, and urethra, constitute a conduit for the escape of the secretion.

The blood-vessels have two separate systems of capillaries; the first one constituting the malpighian corpuscles, and the second one surrounding the convoluted tubes. From the malpighian tufts, which hang pendant within their capsules, the watery portion of the urine is secreted. The structure of these vessels is well adapted for this purpose, as they have no epithelium. This water passes into the convoluted tubes, where it receives and holds in solution the solids, urea, etc., secreted from the second system of capillaries. We are perhaps indebted to Mr. Bowman more than to any one else for information upon these points, elicited by diligent research. He demonstrated that when blood escapes from one of the small vessels constituting the tufts it will appear in the tube, showing that the cavity of corpuscular capsule communicates with the cavity of the tube.

The epithelium lining the vessels changes according to function required. The tubes, blood-vessels, etc., are bound together by a fibrous connective tissue. The whole organ is covered by a white fibrous capsule, attached so delicately by its fibers that ordinarily it is easily removed from the surface; but we will find that in that form of disease, consisting of an extra development of fibrous tissue, the attachments have become so firm that the capsule can not be removed without lesion of structure.

By common consent it is appropriate that the name of Bright shall still be associated with these diseases of the kidneys, not only as commemorative of his greatness, but also of the value of his contributions in this department. There can be no doubt but that, as the differential phenomena shall be more and more fully comprehended, a necessity will arise requiring that his name shall be limited to some one of the diseases characterized by albumen in the urine and dropsy. It seems to me proper that when that time comes his name should be retained in connection with tubal inflammation, both acute and

chronic, as this form of disease more uniformly presents the relation of albuminuria and dropsy, which first secured his close attention, and finally led on to deeper research as to the organic changes in the kidney frequently presenting this same phenomenon.

The quantity of urine in health is about forty ounces, and its specific gravity is about 1020. Its density over and above water is due to the solids eliminated from the blood. Urea is the principal one. About four hundred and fifty grains of this should be separated every twenty-four hours, and the entire solids should be near seven hundred grains.

No albumen should be present in healthy urine, at least such as may be coagulated by heat and nitric acid. However, its presence is by no means conclusive proof of disease of the kidneys. If the kidneys find present in the blood albumen that can not be assimilated by the tissues, they proceed at once toward its removal, as they do with urea or any other noxious or effete substance. We have albumen in the urine under a variety of circumstances. We may have it from obstructed circulation in the kidney, or when the mucous membrane is deprived of its epithelium; in either case the serum of the blood is transuded. It may be present as an element of pus or of blood. It is also found in some cases of pregnancy, being either from obstructed circulation by pressure or as a result of organic change. It also occurs in the course of very many acute and chronic diseases. Whenever albumen is *persistently* found in the urine, especially in quantity, and when in connection with renal derivatives as tube-casts, it becomes an important indication of disease. I think it worthy of mention that albumen appears in the urine in connection with vascular bronchocele and exophthalmos, without any of the forms styled Bright's disease of the kidneys.

A very interesting paper upon this subject was read so recently as the 4th of March ultimo before the Medico-chirurgical Society of Edinburg by J. Warburton Begbie, M. D. Albumen appears in the urine in very great abundance in some of these cases, but no derivatives such as tube-casts appear under the microscope. It may exist for a year or more without organic change in the kidneys, yet it can not be styled *persistent* in the sense of that term used in this paper, for there is a very marked peculiarity in the observation; namely, that albumen appears only in connection with the digestive processes. More singular still is the fact that it is much more abundant after breakfast than after

either of the other meals. It is absent from the urine secreted a few hours after the digestion has been perfected. I think that perhaps Dr. George Johnson has given the true solution of the phenomenon referred to, that the urine is more highly albuminous after breakfast than at other times. He suggests that after a long fast the absorption of materials is apt to be more rapid, and the albumen introduced into the blood is in a very crude state, and hence is removed by the kidneys as other noxious elements are from the blood. This paper of Dr. Begbie is a very interesting one, and the relation of albuminuria and this complex affection should not be forgotten.

Albumen in the urine is at the expense of that element in the blood; hence the tendency of all these diseases to produce anæmia, diminished density of the blood-serum, and œdema. Blood deprived of its albumen does not circulate as readily through the capillaries, and the extra pressure caused thereby, together with the diminished density of its serum, causes serous transudation.

Generally speaking, the amount of albumen in urine indicates nearly the extent of failure of the kidneys in regard to the elimination of urea; however, this is not always true. Neither does the quantity of urine always determine the amount of urea eliminated, for the malpighian corpuscles may secrete a large quantity of water, while the convoluted tubes may not be industrious in eliminating urea; so you are not necessarily exempt from uræmia when you have abundant urine. On the other hand, you may have small quantity of urine more than ordinarily dense from a relative increase in the elimination of solids. Usually they correspond. The amount of urea can only be determined by quantitative analysis; but an approximate estimate may be made by considering the total amount of urine secreted in twenty-four hours and its specific gravity. If we have a large secretion of urine, a proper elimination of the solids may occur, although the specific gravity is low; yet if the secretion is greatly diminished and the specific gravity is likewise low, there must of necessity be a deficiency of the solids.

Albumen is coagulated by heat and nitric acid; also by acetic acid. These constitute the best and most convenient tests. Gallippe has very recently introduced a most delicate test. He makes a saturated solution of picric acid in water at a temperature not below 60° F. By adding a few drops of this solution to a small quantity of the

urine in a test-tube the albumen is very speedily and certainly coagulated without the aid of heat or other appliances. Generally the urine should be tested by both heat and acid separately and combined.

When the serum of the blood is transuded, giving us albumen in the urine, we also have another element of the serum; but one that does not, like albumen, remain in solution; but, like fibrin always does when removed from the blood-vessels, coagulates, taking upon itself the form of the tube into which it is received, and embracing in its coagulum whatever the tube may at the time contain, whether epithelium, blood, pus, or smaller casts. These casts of fibrin are dislodged and washed out by the urine, appearing in its sediment, and under the microscope become of paramount importance in diagnosis. They vary greatly as to their elements and also as to their size, often thereby indicating the size and condition of the tubes in which they were molded.

The most satisfactory classification of these diseases bearing the name of Dr. Bright is that after the manner of Virchow, according to the anatomical structure of the kidney. We propose to adopt this division, and propose to consider these diseases as they involve one or more of these structures heretofore enumerated; namely, tubes, blood-vessels, and connective tissue. I will first discuss inflammation of the secreting structure, styled "acute desquamative nephritis," "tubal nephritis," "large white kidney," etc. Afterward I will present the diseases of the blood-vessels, styled "waxy" or "amyloid" degeneration; and then the disease involving the connective tissue, styled "contracted" or "cirrhotic" kidney. I propose to give you the clinical history of each of these diseases, and afterward some general observations upon their phenomena, both agreed and differential.

Acute Tubal Nephritis.

Inflammation of the secreting structure may be either acute or chronic in its character. As an acute affection it occurs most frequently as a sequel of scarlet fever. It may occur also as a result of exposure to cold, as from lying upon the damp ground or exposure to draught of air after exercise while the skin is bathed in perspiration. Also following several other diseases. We have at once inflammation of the mucous membrane with proliferation and desquamation of the epithelium, which, together with extravasated blood and exudation, fill

up the tubes, and mechanically interrupt secretion and elimination. Secretion is largely dependent upon the "*vis-a-tergo*" force within the circulation, there being no counter-pressure from the tube, and when the contents of the tubes accumulate till the counter-pressure is equal to that from within secretion is greatly dimished, if not suppressed. Urine under these circumstances is highly albuminous, and the result of this state of things is dropsy and often general anasarca. The urinary deposits placed under the microscope show tube-casts in abundance, composed of epithelium, blood-corpuscles, etc. This microscopic phenomenon is characteristic of acute tubal inflammation, if not even pathognomonic, and will often detect its supervention upon the other forms of these diseases. If this smoky, highly albuminous urine becomes very scanty or suppressed, we are likely very soon to have evidences of blood-poisoning.

The mind of the profession is not a unit upon the proposition that the effects upon the nervous system are due solely to the retention of the urea. Frerichs has a theory that the poison consists of carbonate of ammonia, into which the urea is transformed; while Traube thinks the oftentimes disastrous effects are due to an impoverished blood-serum, with an increased blood-pressure, resulting in transudation into or œdema of the brain; the different manifestations being dependent upon the part of the brain involved. At any rate the question is an open one. Yet, alas! we all know full well that suppression very speedily and inevitably ends in death.

If the kidney be inspected after death from tubal nephritis, it is found to be enlarged by increase of the cortical structure from the contents of these tubes more than by exudation into the parenchymatous tissue. The surface is smooth; capsule easily torn off. The kidney will often weigh twice or thrice its normal amount.

Chronic Tubal Inflammation.

By frequent attacks or by persistency of the disease we may have chronic tubal inflammation; the kidney in size and appearance the same as before, modified by the deposit of fat, mostly within the epithelial cells. Tube-casts have now lost their blood-corpuscles and abundance of epithelium. We are supposed to have finally from this condition atrophy of the organ. This is a very different thing from the small contracted, hard kidney due to cirrhosis.

Waxy Kidney.

The "waxy" or so-called "amyloid" degeneration of the kidney is not a local affection, but is regarded merely as a local manifestation of a diathesis. It is usually confined to the walls of the blood-vessels, and is regarded rather a degeneration than an inflammation. It also involves the epithelium, but does not pour out an exudation into the parenchyma of organs.

The structures involved in this degeneration become impaired in the performance of function, the vessels permitting the transudation of serum. The degenerated structure is supposed to more nearly resemble fibrin when deprived of its alkali, and is recognized in the dead-room by a certain reaction with iodine, being turned to a brown color by that agent. It follows diseases of exhaustion, such as syphilis, tuberculosis, caries, and chronic suppuration from whatever source. Being the result of a diathesis, it is often and even generally associated with a similar degeneration elsewhere, as in the liver, spleen, stomach, and bowels.

No doubt exists in my mind but that many of the cases of persistent vomiting and purging that have been regarded as an effort on the part of the system at vicarious elimination of urea have been due to waxy degeneration in the structures of the alimentary canal. The disease is essentially chronic in its character, the symptoms being developed very gradually.

Albumen appears in the urine from the transudation of serum through the impaired structures. However, unlike the former described disease, the secretion in this is above the normal quantity, often exceeding one hundred ounces in twenty-four hours. It is of necessity of low specific gravity on account of an excess of the watery elements. Tube-casts are hyaline in character, but toward the latter stages of the disease epithelial and blood-casts may be observed, indicative of the supervention of tubal inflammation. From this results diminished secretion or suppression, with the symptoms before enumerated.

Cirrhotic Kidney.

Cirrhotic or small hard, contracted kidney consists essentially of a hypertrophy of the fibrous or connective tissue, with resulting atrophy

of the other tissues of the organ. It is by no means certain that this increase of the connective is due to the processes of inflammation, for we very rarely find exudation infiltrating the parenchyma. It is always chronic, never developing rapidly, but is insidious in its approaches. The symptoms are often overlooked for a long time, the patient only realizing after a while that necessity compels him to arise during the night to relieve the bladder. Like the preceding form, the urine is secreted in superabundance and of low specific gravity. It is not often accompanied by dropsy, at least in its earlier stages, and frequently not in its whole course unless complicated with tubal nephritis. It has its analogue in cirrhosis of the liver.

This disease does not constitute, as some have maintained, an advanced stage of tubal nephritis, when the atrophy would be due to the contraction of the exudation. If it was, then the clinical history would show that the early part of its course—namely, when there was active tubal nephritis—was characterized by an abundant albuminuria, dropsy, and the microscopic phenomena indicating this stage. These cases give no such history, but are developed very insidiously.

This form of the disease is very prone to produce hypertrophy of the left ventricle of the heart. Bright observed this, and attributed it to an irregular stimulation of the organ on account of contaminated blood, or because this poisoned and altered blood did not circulate as readily through the capillaries, and therefore required additional force to accomplish it. Traube takes a different view from this. This hypertrophy, occurring in that form of the disease in which atrophy of the organ is one of its marked features, thereby lessening the secreting structure and increasing arterial tension by lessening the amount of blood passing from the arteries to the veins, is a necessity in order to accomplish natural results; namely, a proper secretion and elimination, and a healthy circulation through the crippled organs. Hence he regards the hypertrophy as conservative, as much so as when it is to overcome aortic constriction or any valvular obstruction. If the resistance to be overcome and the compensating power are evenly adjusted, very little effect will be produced upon the health, as is the case with the other cases given as illustrations; but if the obstruction is increased, as it may be, by inflammation of the thoracic viscera, then the ventricle, although hypertrophied, will not be equal to the work devolving upon it, and dropsy with deficient elimination

will ensue. Traube found in seventy-seven cases that the left ventricle was hypertrophied in ninety-three per cent of them.

When valvular disease exists in this affection it is usually the result of induced endocarditis.

Neuro-retinitis is another affection incident to this form of renal disease. Impaired vision may even be the first indication regarded by the patient as serious. Dr. Argyll Robertson records a number of cases where the ophthalmoscope led to the diagnosis of contracted kidney when no thought of renal disease had been entertained. By inspection we observe extravasation of blood, and also exudation into the retinal connective tissue and degeneration, of a fatty character, of the same. The ophthalmoscope should be used where this form of disease is suspected. This form of disease occurs so often in connection with a gouty diathesis that by some it has been styled "gouty kidney." It also occurs in those who have been the victims of lead-poisoning.

We shall be pleased, if possible, to present you in close contrast the groups of symptoms upon which we must depend for differential diagnosis as between these three forms of so-called Bright's disease.

We rely mainly upon the urine, its amount and character as determined by chemistry and microscopy, dropsy, history of the patient, and the complications. The urine in the first stage of the inflammatory form is very greatly diminished, if not suppressed, smoky, highly albuminous, with epithelial and blood-casts in its sediment, as shown under the microscope. In the later stages, or when the inflammation is chronic, the urine may be normal in quantity, or even greater than normal, and the blood may be absent. In the "waxy" form as well as the contracted the quantity is greatly increased over the normal amount, and is pale in color.

Albumen is present in much greater quantity in tubal inflammation than it is in either one of the other diseases, for in these it is often absent or present in a mere trace for a long time. If either the "waxy" or "contracted" kidney is complicated by the superventiion of tubal inflammation, then the urine assumes the characteristics already described.

Tube-casts do not avail us much in differential diagnosis of these diseases under discussion, but they are of paramount importance in determining the existence of some one of them. We may have them all in any one of the forms, yet the epithelial with blood more often

accompanies tubal inflammation. These, with the granular and hyaline, constitute the principal ones. Dropsy is characteristic of the inflammatory form, and indeed does not often occur unless this is present. When dropsy occurs in the course of the waxy or cirrhotic disease it indicates that tubal inflammation has supervened upon the original affection.

History may very greatly aid us in diagnosing any given case. If we know, for instance, that the patient is just recovering from scarlet fever or some acute disease, the presumption is in favor of its being a case of tubal nephritis. If it occurs after a protracted, exhausting suppuration or disease of any kind, the supposition is that it is a waxy degeneration. If it occurs in one possessed of a gouty diathesis or one suffering from lead-poisoning, then the probability is in favor of it being a case of cirrhotic kidney. The inflammatory occurs mostly in the young, perhaps because it is at that age that scarlet fever most often occurs. "Waxy" degeneration may occur at any age, but generally in middle life; while the cirrhotic occurs most frequently in the middle and advanced periods of life.

In regard to complications I avail myself of some tables prepared with unusual care by Dr. Grainger Stewart, and in reporting from these I will always speak of the three diseases in the order in which I have already considered them—tubal nephritis, waxy degeneration, and cirrhosis. I will give you his percentages, and from this data you can calculate the probability of each from a given complication; or, in other words, determine the value of a given complication in differential diagnosis.

Pericarditis,	nearly equal, 7 or 8 per cent.			
Pleuritis,	14	2	15	"
Fatty liver,	25	6	15	"
Waxy liver,	0	32	0	"
Waxy and fatty degeneration of the liver,	0	46	0	"
Cirrhosed liver,	14	0	15	"
Waxy and degenerate spleen,	0	74	0	"
Waxy and degenerate intestines,	0	58	0	"
Tubercle of intestines,	3	18	15	"
Sanguineous apoplexy,	7	2	15	"
Dropsy,	67	6	23	"
Hypertrophy of the heart,	39	4	46	"
Congestive and œdematous lungs,	64	20	54	"
Pneumonia,	21	4	7	"
Tubercle,	7	48	23	"

Prognosis, except in acute tubal nephritis, is always unfavorable. This latter, considering the gravity of the phenomena presented, is not a very fatal disease.

Treatment of tubal nephritis is of the utmost value, but in the other forms it consists simply of management. It is essential at all times to remember that the tendency in all these diseases is toward anæmia, and that so strongly that depletive measures as such are not to be thought of. Also remember that opium and mercury are not tolerated.

In the inflammatory disease the most important indication is to increase the quantity of urine, for usually you will thereby increase the elimination of the solids from the blood. You will also see an additional indication for this measure by remembering that secretion and elimination are mechanically impeded by the accumulations in the tubes, and these are washed out by an increased flow of water. However, do not use such diuretics as will irritate the kidneys. Water in large quantities acts as a diuretic, assisted, if necessary, by digitalis, salts of potash, etc. Give iron early and persistently, and supply the blood with albumen to furnish the waste through the kidneys.

Formerly it was the custom to treat these diseases of the kidneys by copious purging and sweating, with the view of relieving the blood of its extra water and at the same time rest the kidneys. By remembering the physical condition of the tubes you will see that this is not the true policy. Pass large quantities of water through the kidneys in order to keep the tubes clear.

When peril is imminent from dropsy then we may use purgatives and diaphoretics actively, elaterium, and vapor-bath; acupuncture to be practiced, but use needle in order to avoid erysipelas. Do not treat uræmic complications as if there was an inflammatory condition of the brain, for oftentimes it is anæmic. Restore the circulation through the brain, and eliminate poison from the blood. Small doses of opium may be efficient for the first indication, but remember its effects upon secretion. Treat complications upon general principles, but do not deplete.

Waxy degeneration is not curable, but it may be somewhat prevented. Obviate the development of the disease, or even its progress, by preventing the waste upon which the degeneration is supposed to depend, whether suppuration, tubercle, or what not. Improve the

general condition. If from syphilis, give iodide of potassium; if from tubercle, give cod-liver oil; if from caries, remove dead bone, etc. If suppuration can not be controlled, supply waste albumen, alkali, etc. Indeed in all these diseases supply the blood with albumen lost through the kidneys.

Cirrhosis is also an incurable disease. We may mitigate and obviate its complications by engaging the skin very actively by clothing, vapor-bath, and climate. Give iron, and remove the dyspeptic symptoms by the bitter tonics, acids, etc.

Knowing full well the imperfections of the foregoing paper, your charitable consideration is asked therefor.

THE THERAPEUTIC PROPERTIES AND USES OF OXYGEN GAS.

BY FRANK C. W'LSON,
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The limited scope of this paper prevents more than a mere allusion to the discovery of oxygen by Priestley; its first use in therapeutics by Caillens in 1783; the founding of the Pneumatic Institute by Beddoes, Davy, and Watt; its subsequent failure, and the lapse of oxygen into almost complete oblivion, until the publication of the book of Dr. Berch in 1857, of Demarquay in 1866, of Beigel in 1866, and of Dr. Andrew H. Smith in 1870, brought it again into general notice.

From the numerous reports throughout the medical journals we may infer that many have experimented with it. Many successful cases have been recorded; perhaps more unsuccessful ones have been buried in the unwritten medical history.

The profession is very much divided as to the therapeutic value of oxygen. There is no doubt that the glowing anticipations of its enthusiastic advocates have not been realized to the full extent they hoped; yet all who have given the subject any thought will readily admit that in oxygen we have a remedial agent of undoubted value, and one which has again and again saved valuable lives. In a large majority of cases, however, it has been used as a last resort, as a forlorn hope; and in estimating the value of the statistics proper allowance should be made for this fact.

The difficulty attending its manufacture and its expense have tended to prevent its introduction into general use. In cities one or more druggists usually keep it on hand, or are prepared on short notice to furnish it in rubber bags containing from five to forty gallons, retailing it at from ten to twenty cents a gallon. In Louisville Mr. D. B. Grable has for four or five years kept it on hand, insuring its

purity by passing it through two wash-bottles. In New York it is furnished in metal cylinders, the gas being compressed so as to make it more portable. In an emergency any physician could generate a few gallons, the simplest source being a mixture of chlorate of potash and binoxide of manganese, the gas being disengaged by the application of heat. In 1867, while on duty at the Epileptic and Paralytic Hospital in New York, desiring to use oxygen to counteract the asphyxia resulting from a series of epileptic convulsions, which left the lungs filled with a frothy mucus, I generated the gas in the following way: Mixing the chlorate and binoxide in proper proportions, I partially filled a large test-tube, and having bent a long glass tube passed it through the cork in the open end of the test-tube, sealing it tight around. The other end of the tube was conducted beneath a large jar filled with water, and inverted over an improvised pneumatic trough, consisting of a wash-basin. The application of heat from a spirit-lamp disengaged the gas, and I was thus enabled to collect four or five gallons. The administration of this produced a most marked effect, quickly dispelling the intense cyanosis, and speedily restoring the consciousness to a sufficient degree for the patient to clear the mucus from the lungs by voluntary cough and expectoration.

This case shows that any physician with a little mechanical ingenuity can contrive an apparatus which in an emergency may save a human life. The oxygen may be administered either through a cone, as chloroform is given, or the tube may be inserted either in the mouth or nostrils, the gas being allowed to escape only during inspiration. The quantity to be given will depend entirely upon the exigencies of the case and the purpose for which it is administered. Sometimes it is only necessary to administer it for five or ten minutes several times a day; while in other cases it may be constantly inhaled.

In considering the therapeutic properties of oxygen it will be necessary to determine first its physiological action in the system. Oxygen was well named, by its early discoverers, vital air; for "the moment we are deprived of oxygen, that moment we begin to die." Combined with nitrogen in the form of atmospheric air, it is drawn into the lungs at each inspiration, passes through the thin membrane into the blood-vessels, and enters into an intimate union with the blood-corpuscles, which distribute it to the entire system. The question then naturally arises, is there no limit to the amount of oxygen

which may be taken up by the blood-corpuscles; or, in other words, would the blood absorb a greater proportion of oxygen from the lungs filled with pure gas than when diluted with nitrogen as in the atmospheric air?

Dr. Smith, in discussing this question, arrives at the following conclusion: "That if pure oxygen be taken into the lungs, only so much will be absorbed by the blood as would be taken up from the air under circumstances involving the greatest physiological demand for oxygen;" as, for instance, in active muscular exertion. The practical question is not so much whether the blood can be super-oxygenated as whether with a diminished available lung-surface, as in phthisis, pneumonia, etc., the amount of oxygen absorbed may be maintained at or near the normal standard by presenting pure oxygen instead of atmospheric air. Within certain limits no doubt this is the case. Whenever the amount of consolidated lung is so great that the non-oxygenated blood circulating in it, combined with the super-oxygenated blood in the rest of the lungs, will reduce the proportion of oxygen below the minimum vital standard, the cyanosis will continue to increase, and though the fatal result may be delayed it will be inevitable.

In order to show that where there is merely some obstruction to the entrance of air, the vesicles being entirely free, the blood will absorb more oxygen when presented pure than as atmospheric air, I instituted the following experiments, as reported in connection with a case of croup in the Richmond and Louisville Medical Journal for January, 1871.

Ex. 1.—A rubber ring was placed around the neck of a mouse so tight as greatly to obstruct the breathing, and when suffocation seemed imminent he was placed in a jar of pure oxygen, which revived him, and he seemed to breathe with comparative ease.

Ex. 2.—Made upon myself. The mouth being closed, respiration was continued through the nose partially obstructed, so that after several minutes the sense of impending suffocation became very distressing. Pure oxygen was then substituted for the air, and breathed through the same opening, with almost complete relief from distress.

Dr. Smith, in his admirable essay upon this subject, details the following still more conclusive experiment: Tracheotomy was performed on a rabbit, and a tube provided with a stop-cock was tied

in the trachea in such a way that no air could enter the lungs except through the tube. The stop-cock was now turned until symptoms of suffocation were produced; the eyes protruded, the pupils dilated, and the whole body was convulsed. The free end of the tube was then brought into a stream of oxygen, when the symptoms were at once relieved, and, though the breathing was labored, there were no signs of actual distress.

We may learn the effect produced upon the system by the inhalation of pure oxygen gas or of superoxygenated air by considering the changes caused in the appetite and nutrition, the circulation, the temperature, the secretions, and the excretions. The appetite is usually increased in a remarkable degree, as shown by the record of numerous cases, and that the nutrition is vastly improved is evinced by the rapid gain in weight.

The circulation, as shown by the pulse, is in health slightly quickened, if changed at all, while the weak and quick pulse is made stronger and slower. The capillary circulation is also stimulated, as evinced by the return of the rosy hue to the pallid cheeks. This effect is produced not only upon the surface, but also in the intestinal tract, the viscera, and whole glandular system.

According to my experience the effect upon the temperature is not uniform and is slight. Many claim that the temperature is elevated, and this is frequently so when the extremities are cold, because of the sluggish circulation. But that the temperature is not always elevated and may even descend in spite of the oxygen is shown by the following case: J. M., an inmate of the City Hospital and in the last stages of phthisis, was noticed ten days before his death to have a temperature of only 96°. Thinking the thermometer at fault, several others were used, all indicating the same degree. The surface was somewhat cyanotic and the extremities cold. Stimulants were ordered, together with inhalations of oxygen gas. Twenty-five or thirty gallons of the gas were administered during the day, and four ounces of whisky given; but still his temperature descended until it reached 91°, when a reaction occurred, and the next day it was normal. Eight days after the same thing occurred, the temperature being noticed at 97°, when oxygen gas was again given, the thermometer indicating as low as 94°, from which point it did not rally, the patient dying in two days. Thus we see that in exceptional cases no effect is produced. Possibly here

the lungs may have been so impaired that too little oxygen was absorbed to affect the temperature.

We would naturally expect the secretions to be increased, conceding that the capillary circulation is every where stimulated. No accurate experiments have been instituted to ascertain the effect upon the secretion of the liver, spleen, stomach, pancreas, etc., but possibly the increased appetite may be partly due to a stimulation of the digestive glands. That the assimilation of cod-liver oil is greatly facilitated shows conclusively that the secretion of the pancreas has been stimulated.

The elimination of carbonic acid from the lungs Dr. Smith found to be at first decreased by the inhalation of oxygen gas, but the result of more extended experiments gave a slight increase in the average amount exhaled. The temporary decrease may easily be accounted for by the less displacing power of oxygen toward carbonic acid as compared with atmospheric air, the residual air soon becoming so saturated with carbonic acid as to interfere with the further elimination of the gas from the lungs. For this reason no doubt it would be better to combine with oxygen a proportion of hydrogen, which has a very high diffusive power, thus enabling us to form a mixture having the same or even a greater diffusive power than atmospheric air, but containing twice or three times the proportion of oxygen. The only objectionable feature would be the explosive nature of the compound. According to Dr. Smith the amount of urea to be detected in the urine is notably diminished. This would seem to show that the amount of urea is in reality a measure of the incomplete oxidation of the metamorphosed tissues.

Oxygen will be found to be of service in the following classes of cases:

I. Where from some obstruction in the air-passages an insufficient supply of air is allowed to enter the lungs, as in croup, constriction of larynx or trachea, asthma, accumulation of mucus in trachea or bronchi during coma or severe bronchitis, or asphyxia from drowning. In the case of membranous croup, before alluded to, the relief afforded by the administration of oxygen gas was most marked and gratifying, the labored, distressed breathing soon becoming natural, and the color of the face and lips, previously livid, normal. The case was successful, life being thus sustained until the membrane separated and was

expectorated. Dr. Smith reports a number of cases of asthma where the relief was very marked, some being cured by the continued use of the remedy. In 1867 I used oxygen in two cases of epileptic convulsions, where the patients, after a series of fits, remained in a cyanotic condition, the lungs being filled with a frothy mucus. The effect was prompt and satisfactory, and I have no doubt saved the lives of the patients, as I had seen several others who were in the same condition continue to grow worse and die without ever returning to consciousness. In capillary bronchitis the relief is just as great. Dr. H. N. Read, in the New York Medical Journal for February, 1871, reports a case of asphyxia from drowning, in which the effect of oxygen was to produce complete reaction and bring about consciousness, though the patient died several days afterward of pneumonia.

II. Where only a portion of the lung is pervious to air, as in atelectasis, or in pneumonia or phthisis, or where the lung is prevented from duly expanding either because of excessive abdominal distention or pleuritic effusion.

In a case of atelectasis producing the most intense cyanosis I was enabled by the administration of oxygen to restore the natural color to the surface, and the cyanosis only returned when the inhalation of the gas was omitted. In two days, however, the child died, having at no time fully inflated the lungs. A post-mortem examination disclosed from one third to one half of each lung in a state of atelectasis. In pneumonia many successful cases have been reported, while in many others the relief has been only temporary. In phthisis it has been used more perhaps than in any other disease, and the results reported have been various.

Dr. H. N. Read, in the New York Medical Journal, as quoted in the Richmond and Louisville Journal for May, 1872, reports the results in the treatment of twenty-one cases of pneumonia, chronic bronchitis, and phthisis by the daily administration of from two to four gallons of oxygen for a period of from one to ten months. There was a marked alleviation of all the symptoms in most of the cases, a rapid gain in weight in many of them, with a complete cure in fourteen.

Dr. Larrabee reports a case far advanced in phthisis, in which, in a violent fit of coughing, a small cavity in the lung least affected by the disease was ruptured into the pleura, producing pneumo-hydrothorax.

The other lung being largely obstructed by the deposit, cyanosis rapidly supervened, for the relief of which oxygen was prescribed. The relief afforded was so evident to the patient himself that whenever the inhalation was discontinued he would insist upon its renewal. In this way two hundred gallons were used, prolonging his life two days and greatly mitigating his distress.

Dr. Smith has collated a number of cases, and reports many from his own notes, where the success was most marked, in some cases all tuberculous signs disappearing entirely. The remedy certainly deserves an extended trial in this disease.

III. Cases of blood-poisoning, as by opium, chloroform, chloral, urea, septic material, etc. In August, 1873, J. K., a patient in the City Hospital, took one grain of sulphate of morphia, with two drachms of hydrate of chloral. When seen by Dr. Paschal his respirations were six per minute, pulse ninety-six, and he was deeply cyanotic. Oxygen was administered, when the respirations at once rose to fifteen per minute, the cyanosis disappeared, and in fifteen minutes consciousness returned.

In three cases in which I have administered oxygen, after the production of anæsthesia by chloroform, or chloroform and ether, the cyanosis rapidly disappeared, the respirations became at once deeper and fuller, while the pulse became stronger, slower, and more regular, consciousness returning in a much shorter time than usual. In two of the cases, who had taken chloroform before and suffered excessively from nausea and vomiting, there was only slight uneasiness, while the third suffered none at all. Thus we see that the administration of oxygen not only lessens the danger from chloroform, but by rapidly eliminating it from the system it almost entirely abolishes the unpleasant after-effects. This would indicate its use in such operations as ovariotomy, the success of which is often endangered by the violent retching and vomiting caused by the anæsthetic.

IV. Cases of anæmia requiring ferruginous tonics. Oxygen is specially beneficial in those cases confined to the house, for it is well known that iron has little effect unless the patient gets at the same time plenty of fresh air; in these oxygen may supply this want.

V. Cases where it is desired to stimulate the capillary circulation either of the skin, as in certain skin-diseases, indolent ulcers, etc.; or of the intestines because of ulceration, as in dysentery, typhoid fever,

etc. The inhalation of oxygen for a few days quickly transforms the indolent ulcer into a healthy granulating surface. In the confluent variety of small-pox the stimulation of the cutaneous capillaries may be required to cause the eruption to pass through its normal stages. In the case of the Rev. Stuart Robinson the eruption, semi-confluent and hemorrhagic, instead of drying up with the formation of scabs about the twelfth or thirteenth day, seemed to shrivel, the pus being re-absorbed, thus poisoning the system and causing a low typhoid condition, with muttering delirium and carphologia. In this condition I administered oxygen, hoping to promote the scabbing of the eruption and stimulate the vital powers. The effect was soon manifested in a decided improvement.

In cases of septicæmia the remedy is worthy of a fair trial, for the few cases reported have been favorable, and we should hail with delight the advent of any remedy which gives a fair promise of being able to battle with this dread disease.

PATHOLOGY AND TREATMENT OF GLAUCOMA.

BY C. S. FENNER, M. D.

Previous to the invention of the ophthalmoscope but little was known of the pathology of glaucoma. From the greenish reflex of the fundus of the eye it derived the name of glaucoma or green cataract. Authors took much pains to point out the distinguishing symptoms between the incipiency of this disease and the first stages of cataract and amaurosis. Mackenzie says, "To distinguish glaucoma from cataract, especially in the incipient stage, proves to beginners one of the most difficult pieces of diagnosis, and sometimes not to beginners only, but to those who for a length of time have attended to the diseases of the eye. . . . Glaucoma is often mistaken for amaurosis, from the circumstance of being always attended by some of the subjective symptoms of this disease."

When it was sufficiently developed to make the diagnosis clear and unmistakable the patient had to be assured that he would sooner or later become totally blind, and no hope would then remain for the restoration of his vision. Now what a change! By the aid of the ophthalmoscope the first stages of the disease can be diagnosticated with almost unerring certainty; the pathological changes watched as they progress; and, thanks to the genius of Von Graefe, we are enabled to assure the suffering patient that his sight can with great probability be entirely preserved, or at the worst will be but slightly impaired. Thousands are now in the enjoyment of good vision who had they lived a quarter of a century ago would have been hopelessly blind.

Mackenzie first pointed out the fact that an increased hardness of the eye always existed in glaucoma; but he failed to discover the causes of the increased intra-ocular tension, and of its effects on the interior structure of the eye. Even after the monocular ophthalmoscope came into general use it was some time before surgeons learned

to correctly interpret all the phenomena the interior of the eye presented. In the examination made with but one eye of the observer the effect of stereoscopic vision with both eyes was wanting; depressions seemed as elevations, and the glaucomatous cupping of the optic disk appeared and was described as an arching forward of the nerve-entrance.

Von Graefe first detected this error, and showed that what appeared as an elevation was an optical illusion; that the disk was actually pressed backward, forming an excavation. From this change in the form of the optic papilla, taken in connection with the increase of the intra-ocular tension, he saw at once that new light was thrown on this hitherto obscure disease. He argued that the cupping of the optic disk was the result of the increased intra-capsular tension. It is precisely the same as if we were to take a hollow ball of some slightly elastic substance and force into it a fluid. The more thrown in the harder the ball becomes. Now if a small portion of its walls is weaker than at other parts, this weaker or thinner portion, offering less resistance to the internal pressure, would give way and be forced outward. This is just what takes place in glaucoma. There is an increase of the fluid contents of the capsule; that part of the sclerotica corresponding to the entrance of the optic nerve and blood-vessels (lamina cribrosa) is perforated to allow the vessels and nerve-fibers to pass into the eye; around these perforations the sclerotica is thicker and stronger than at any other place, because here it receives the addition of the outer sheath of the optic nerve; hence the edge of the scleral foramen is sharp, very firm, and unyielding. The fibers of the scleral tissue passing between the nerves and blood-vessels, offering less resistance to the increased intra-ocular pressure, being the weaker part, gives way and is pressed backward. As they pass behind the thickened ring surrounding the lamina cribrosa they not only expand backward, but laterally, forming a flask-shaped sack, having an opening corresponding to the resisting edges of the scleral perforation. The nerve-fibers and blood-vessels are put upon a stretch and bent over this sharp edge. If an elastic tube conveying fluid is bent over the sharp edge of a hard substance, the walls of the tube are compressed at that point, and the passage of fluid in them is more or less impeded. Now this is just what takes place in the blood-vessels accompanying the optic nerve. They are bent and stretched over the

resisting edge of the scleral foramen; the walls of the arteries, being firmer and more resisting than the walls of the veins, still continue to convey the blood, but in less quantities than normal; the veins being thinner and more compressible, the circulation in them is impeded to a greater degree; hence they become engorged and swollen. The obstruction and lateral pressure exerted on the arteries prevents their gradual yielding to the impulse of the blood, and they only receive the blood after the impulse has become very strong; hence the arterial pulsation is seen spontaneous and jerking. The capsule being distended by the intra-ocular pressure of the fluids of the eye until it has lost its elasticity, each arterial pulsation adds to the incompressible fluid contents of the globe. The result is that each arterial pulsation increases suddenly the lateral pressure on the veins, and forces by quick compression venous blood through the obstruction at the edge of the optic papilla, while they immediately refill, to go through the same process after each pulsation of the arteries. Thus we have spontaneous arterial pulsation and venous pulsation, which is pathognomonic of increased tension of the eye in glaucoma. By pressure on the normal eye spontaneous arterial pulsation and pulsation in the veins can easily be produced. Bearing these points in mind, most of the phenomena connected with glaucoma are easily explained, and are just what *à priori* would be expected: certain results follow certain causes. We should look for just such pathological changes from increased intra-ocular tension or great rigidity of the sclerotica; and if means could be found to restore the eye to its normal tension, the loss of vision would be prevented or restored if organic lesions beyond reparation had not already taken place.

This is what Graefe accomplished. He found means to relieve this increased intra-ocular tension and restore the eye to its normal hardness, and thus to check those pathological changes that surely tend to organic lesions, causing total loss of vision. If he had done nothing else tending to the advancement of ophthalmological science, his name would be imperishable. He found by experiment that an iridectomy, removing a large section of the iris up to its peripheral attachment, relieved the increased intra-ocular tension, and re-established the normal endosmotic equilibrium between the circulation in the blood-vessels and the fluid contents of the eye.

When he first published his views on this subject to the world in

1856 his conclusions were received with a good deal of incredulity, because this happy result of the operation could not be explained on rational principles. Many surgeons repeated the operation without deriving the expected benefit. I remember seeing a case of glaucoma in the clinique of Desmarres, in 1860, in which he had a short time previously removed a portion of the iris. The vision of the patient was not improved. It was a case of confirmed glaucoma, where, according to our present knowledge, no benefit could be expected beyond relief from pain, because organic changes had taken place beyond the power of reparation. As surgeons became more familiar with the use of the ophthalmoscope, and learned more correctly to diagnosticate the earlier symptoms of glaucoma, and to appreciate the effects of increased tension of the eye, they were led to perform the operation of iridectomy at an earlier period, according to the instructions of Von Graefe, with results so favorable that it is now an almost universally established operation for the relief of increased intra-ocular tension.

Symptoms of Glaucoma.—"These comprehend the senile increase of the hardness of the globe, the ophthalmoscopic appearances of excavations of the optic nerve, the symptoms of hyperæmia and inflammation, as well as a great variety of disturbances of vision."—(*Stellwag.*)

An abnormal hardness of the eye is one of the first objective symptoms, and this increased tension varying from a slight degree, as evidenced by the touch, to the hardness of bone or ivory. A rapid diminution of the refractive power of the eye is usually noticed (*presbyopia*), which the patient is at first disposed to regard as the result of senile changes, and he seeks relief in convex glasses. These have frequently to be changed for those of higher power, until he finds that he requires their use in order distinctly to see remote objects (*hypermetropia*). This diminution in the refractive power of the eye is probably owing to the intra-ocular pressure, which has a tendency to cause the cornea to assume a spherical shape corresponding to the curvature of the sclerotica. In the latter stages of glaucoma the ridge around the sclero-corneal junction disappears. The increase of intra-ocular pressure may be rapid, or it may be very slow and only noticed at certain times, as after a full meal, excesses in drinking, loss of sleep, etc. The premonitory attacks are most usually periodical, and may

be attended by intense headache and ciliary neuralgia, with evidence of acute inflammation; or the disease may steadily progress to total loss of vision without pain or perceptible inflammatory symptoms. The increased tension is evidently due to an excess of fluid secretion in the vitreous. As the eye grows more and more hard the pupil becomes widely dilated, the iris motionless, and forms a narrow ring around the margin of the cornea; it together with the crystalline lens is pushed forward till they rest against the posterior surface of the cornea, and thus entirely obliterate the anterior chamber. The secretion of the aqueous humor ceases from atrophy of the uveal portion of the anterior chamber. The cornea becomes anæsthetic, varying in degree according to the amount of intra-ocular tension: this insensibility may be evenly distributed over its entire surface or confined to certain portions of it. When the internal pressure becomes very great and continues for a length of time, the cornea becomes so insensible that its surface may be rubbed with the finger or brushed with a feather without causing any pain or reflex action. This insensibility is undoubtedly due to a pressure on or a stretching of the nerve-fibers supplying this part of the globe. Irritating substances lodge upon the surface of the cornea, and as they produce no pain or reflex action are not rubbed off by nictation or washed away by the tears; hence they remain there, giving rise to inflammation, ulceration, opacities, etc.—results similar to those following paralysis or injuries of some of the branches of the fifth pair of nerves. Greatly enlarged veins finally are seen bursting out from the anterior portions of the sclerotica, which anastomose and pass tortuously over the equator of the globe, while near the sclero-corneal junction there is a fine vascular net-work of vessels, more particularly evident during an attack of intense inflammation. Finally the sclerotica becomes thin, translucent, and of a whitish porcelain appearance. As the hardness of the eye increases the disturbances of sight become more and more manifest. The field of vision is gradually obscured. In daylight a thick fog prevents distinct perception of objects; by artificial light, as in looking at a lighted candle in a dark place, a halo is seen around the flame that gives all of the colors of the rainbow, the inner side being red, the outer green. Soon objects cease to be perceived on the inner part of the visual field; this insensibility gradually extends eccentrically above and below until the ends meet on the outer side, leaving a

narrow slit of sensitive retina extending downward and outward. This gradually closes, until finally all quantitative perception of light is gone. The patient long after this has periodically subjective sensations of light; hence he has his light and dark days.

Ophthalmoscopic Appearances.—When the increased hardness of the eye becomes plainly manifest the optic disk is found slightly excavated or pushed backward; the arteries are of normal size or slightly diminished in caliber; the veins are swollen and a little flattened. As the intra-ocular pressure increases the disk becomes more and more cupped, the arteries diminish in size, while the veins are larger and more tortuous. The blood-vessels passing over the edge of the disk are seen bent or arched backward; venous pulsation becomes visible, or may be produced by slight pressure with the finger, followed by spontaneous arterial pulsation. When the tension of the eye becomes very great the excavation of the disk is deep and flask-shaped; all its blood-vessels disappear; its color, which at first, owing to venous congestion, was of a reddish hue, now becomes of a grayish-blue or a tendonous-white. The retinal vessels are sharply cut off at the edge of the disk, where they appear beak-shaped, particularly those which pass in an oblique direction. , The veins are greatly enlarged, and the collateral branches assume a corkscrew appearance, while the arteries are more or less atrophied. Retinal ecchymosis is often seen. In the advanced stages of glaucoma a characteristic yellowish-white ring surrounds the optic-nerve entrance, which increases in breadth as the excavation grows deeper.

The above-enumerated symptoms and pathological changes constitute glaucoma, which may or may not be accompanied by inflammation; hence the disease is usually described under the heads of inflammatory and non-inflammatory glaucoma.

Inflammatory Glaucoma.—This form of the disease is generally attended by a premonitory stage, each attack being followed by a perfect intermission, which may last for weeks or months; the attacks grow more and more frequent, until after a time there ceases to be a perfect intermission, but only a remission of the more acute symptoms. The glaucoma is now said to be confirmed. During the permonitory stages the patient when looking at a lighted candle sees around the flame the prismatic halo. This appearance may be at first the result of simple pressure on the nerve-fibers, but after a time it is generally

accompanied by a cloudiness of the aqueous and vitreous humors; hence the prismatic halo and haziness is probably due to diffraction. This haziness is at first transitory, sometimes appearing several times during the day, and lasting but a few minutes. When the inflammatory symptoms become more severe the blueish-gray haziness is so great and the fundus of the eye is so completely obscured that an ophthalmoscopic examination can not be made. The premonitory attacks are generally preceded or accompanied by severe headache, with ciliary neuralgia. If the inflammation is of very high degree, these pains are often agonizing, and vision may be totally lost in the course of a few hours (*glaucoma fulminans*); but generally this result does not take place until after repeated exacerbations, each one of which adds to the impairment of vision, until at the end all quantitative perception of light disappears. The haziness that obscures the field of vision during the premonitory stages often disappears after sleep. In persons advanced in life the eye gives from its fundus a greenish reflex; but this is not seen before middle age. Senile changes in the lens give its nucleus a yellowish-amber color. In glaucoma the bluish-white opacity of the vitreous mingling its color with the amber-colored lens gives a greenish reflex. The green color disappears if the lens is removed, showing that it is only a combination color.

Chronic Inflammatory Glaucoma.—This form of the disease is also accompanied by a premonitory stage, but usually there is a remission of the more prominent symptoms, rather than perfect intermission. The intra-ocular tension slowly increases; but the pain is less severe than in the acute form, or it may be entirely absent. The progress of the disease is slow; but the final result is the same—total loss of vision. Frequently before this takes place there are one or more attacks of acute exacerbation. These exacerbations may continue long after vision is totally destroyed, giving rise to intense pains in the head, with severe ciliary neuralgia; the inflammation may extend to the conjunctiva, causing chemosis and great swelling of the lids.

Non-inflammatory Glaucoma (*Glaucoma Simplex*).—This form of the disease is insidious in its approach, and often makes considerable advances before the patient is aware of it. If confined to one eye, he often accidentally finds that he can not see as well with it as with a sound one. Small objects are indistinctly seen, and the limitation

of accommodation progresses to hypermetropia. This limitation of accommodation can at first be remedied by convex glasses. There is no prismatic halo around a lighted candle; but after a while vision becomes misty, and objects are indistinctly perceived. The eye has a normal appearance, but the iris is a little sluggish in its movements. To the touch, the globe will be found to be a little harder than natural, and the ophthalmoscope reveals a slight displacement of the porus opticus backward, with perhaps a bending of the retinal vessels in the optic papilla, and by slight pressure venous pulsation and spontaneous arterial pulsation can be produced.

The disease may remain almost stationary for months or years, but eventually the intra-ocular tension slowly increases, the iris dilates to a narrow ring, the aqueous chamber diminishes in size, the eccentric contraction of the field of vision from the inner side gradually extends, the cornea becomes anæsthetic, the optic disk deeply cupped, and the eye approaches the hardness of bone. All of the pathological changes enumerated as resulting from increased intra-ocular tension take place, until finally all perception of light is gone, often without the patient having suffered pain or the appearance of inflammatory symptoms. There is an absence of retinal ecchymosis in such cases; but more frequently before vision is totally destroyed exacerbations of acute inflammation come on and hasten the final result.

Secondary Glaucoma is where the increase of intra-ocular tension supervenes or results from some other affection of the eye, as large, deep cicatrices of the cornea, serous choroidetis, anterior or posterior synechia or irido-cyclitis. The latter is often induced by wounds of the anterior capsule, whereby the aqueous humor is admitted to the lens, causing the latter to swell from the absorption of the fluid, and thus to press on the iris and ciliary body. This is why it is so dangerous to freely open the anterior capsule in the operation of discission for cataract in persons advanced in life. The irritation induced by a hard lens displaced in the vitreous humor, causing irido-cyclitis, terminating in glaucoma, is the chief reason why so many eyes have been lost a few months after the performance of the now-abandoned operation of couching.

Treatment.—In the premonitory stage of glaucoma, when a considerable time intervenes between the attacks, great care should be exercised to avoid every thing that has a tendency to induce hyper-

æmia of the retina or choroid. The diet should be nutritious, but the stomach not overloaded with indigestible food. Hearty suppers and all excesses in drinking spirituous liquors should be avoided. The habits should be regular, particularly as to the hour of retiring, so as to avoid loss of sleep. · Care should be taken not to use the eyes too long in continued reading fine print, writing, etc., and particularly to avoid. reading in a recumbent position. If there is a diminution in the powers of accommodation, convex glasses should he worn of sufficient power to make objects distinctly seen without straining the eyes.

The chief object of treatment is to restore the eye to its normal tension. This was formerly attempted to be accomplished by evacuating a portion of the vitreous, but without producing the desired result. Next the frequent tapping of the anterior chamber was tried. But the benefits derived from these operations were only temporary, few cases of glaucoma having been permanently relieved by this course of treatment. The only effectual remedy is an iridectomy carefully performed according to the instructions given by Von Graefe. It is best to remove the portion of excised iris upward, for then the upper lid covers the coloboma, and prevents circles of diffusion that would result from a removal of other parts of the iris. The incision should be made in the sclerotica at least half a line from the corneal junction. While an excision of a portion of the sphincter of the iris, as in the operation for artificial pupil, may in many cases give relief; yet to obtain the full benefits of the iridectomy at least one fifth of the iris should be removed and torn completely from its peripheral attachment. Great care should be taken that no portion of the iris remains in the angle of the wound.

Graefe says, "Although it is certainly advisable to excise the iris as peripherally as possible, yet the non-fulfillment of these conditions is by no means always, not indeed usually, followed by insuccess. I have seen a very great number of eyes in which the operation had been imperfectly performed for typical inflammatory glaucoma, and yet in which the cure had been permanent. . . . I would fain hope that these remarks will not induce carelessness in excising the iris." He considers it of paramount importance "that the iris should be carefully and completely removed from the wound, *for any inclusion of it in the cicatrix will certainly increase the secretory irritability of the eye.* Had I to choose between a coloboma that does not reach quite to the

peripheral wound, but in which one edge of the coloboma is largely included in the cicatrix, I should always prefer the former. . . . . *In no case should the operation be concluded till we are certain that the iris is completely released from the wound.*"

In simple non-inflammatory glaucoma a little delay in performing the operation is a matter of no great importance; but in the acute form of the disease iridectomy should be performed as speedily as possible. If done within the first fourteen days of the attack, we may "restore and preserve to the eye nearly or entirely its full former functionary power."—(*Stellwag.*)

In chronic inflammatory glaucoma it not infrequently happens that the patient is not seen by the surgeon until serious lesions have taken place. An iridectomy may arrest the progress of the disease, but often fails to completely restore the eye to its normal functions, because organic lesions have taken place beyond the power of reparation. Usually a few days after the operation the eye assumes very nearly or quite its normal hardness; the anterior chamber refills with aqueous humor; the cupped disk is flatter; and the pathological changes become stationary or diminish.

It sometimes happens that the iridectomy does not check the glaucomatous process. In such cases Graefe recommends a supplementary iridectomy, incising a diametrically opposite piece of the iris. He says, "I must indeed confess that I have become dubious whether incision of the adjacent piece has any influence over the tension. It is at all events very slight, and will generally not suffice in cases where the first iridectomy has had no sufficient or permanent effect. On the contrary, I could adduce at least a dozen cases where excision of the opposite piece has had a permanent effect after failure of the first iridectomy."

There is a singular result frequently following an iridectomy in acute inflammatory glaucoma. It is this: if the disease is confined to one eye, the operation, in a great majority of cases, hastens the appearance of the disease in the other eye; it generally comes on in from eight to fourteen days after an iridectomy on the glaucomatous eye. The patient should be apprised of this beforehand, and assured that a similar operation will with great probability soon be required on the other eye.

It is always best to place the patient thoroughly under the influence

of chloroform previous to performing the iridectomy, as the evacuation of the aqueous humor suddenly relieves the eye of its great tension, and there is then a tendency in the degenerate walls of the blood-vessels to give way and permit intra-ocular hemorrhage. The risk is greatly increased by the spasmodic contraction of the ocular muscles during the operation. These spasms are prevented in a great measure by rendering the patient insensible by means of an anæsthetic.

It has not yet been satisfactorily explained how an iridectomy diminishes the increased or abnormal intra-ocular tension of the eye. Wells says, "Amongst other hypotheses, some have thought that the tension was diminished by the excision of a considerable portion of the secreting surface; others that the removal of the iris quite up to its ciliary insertion, and the consequent exposure of the zonula zinnii, facilitates the interchange of fluid between the vitreous and aqueous humors, and thus diminishes the difference in the degree of tension between these humors. We must admit, however, that this problem has not at present been satisfactorily solved."

Graefe, in the last article he published on glaucoma, says, "No progress of importance has been made in respect to the *theory* of the operation, notwithstanding many attempts. Old hypotheses are usually dragged forth, little as they avail for the explanation of existing facts. The unhappiest of all—the one referring the effect simply to the wound of the ocular capsule—is periodically brought forward, decked in some new formula, and recommended for adoption. Fortunately for our patients, practice advances independently on the foundation of empirical principles. No doubt some day a satisfactory theory will be found; but in the mean time we must not be led away by transient hypotheses."

THE PHYSICIAN.

BY EDWARD RICHARDSON, M. D.

There is no occupation, I presume, which demands a larger share of patient endurance than that of the practitioner of medicine. He must possess also in his composition a vast amount of benevolence, if we may suppose that from a desire to benefit mankind he has chosen a profession which, according to Dr. Johnson, is "a melancholy waiting upon diseased humanity and a perpetual interruption of pleasure." He can claim no moment, by day or night, exempt from spoliation, and can assure himself of no repose undisturbed by urgent and startling calls, alarming news, or unwelcome intrusion. With all his efforts he often fails to give satisfaction to his patients and their friends, and is liable at any moment, at the instance of some meddlesome crone or interested relative, to be discharged from attendance precisely perhaps when the good effects of his remedies are about to be manifested. It is seldom he can secure a strict observance of the regulations he prescribes, and patients will persist in consulting their own tastes and inclinations, while they at the same time will blame the doctor for failing to cure them.

The physician is indeed too often, as defined by Voltaire, "an unfortunate gentleman who is every day called upon to perform a miracle—to reconcile health with intemperance." It is his office, moreover, to encounter the wasting pestilence, the insidious malaria, the deadly contagion of disease; to plunge into the infected haunts of poverty, and expose in a thousand ways his own health and life in seeking to ameliorate the woes of his fellow-beings. Nor may he usually expect to realize in the practice of his profession that competency, not to say affluence, which in many of the other pursuits of life is at once a direct incentive to exertion and a just reward of toil. For it is among the destitute and poorer classes of society that he finds the

most frequent demands for his services; and though, like Boerhaave, he may regard the poor as his best patients—payment being certain in another world—he would certainly often make his appearance in that world before his time, through sheer starvation, if he did not manage to gather from other sources enough to supply his present needs.

With this picture before us of the actual average life of the true physician—of one who, from the highest motives and most elevated principles, seeks to fulfill faithfully the duties of his calling—we might be led to suppose benevolence one of the most abundant of qualities when we observe the rapid and eager influx of new members into the profession. We should think the millennium to be near, and that the lion and the lamb would soon lie down together, when we see such a rush of all sorts and descriptions of men come to the rescue of diseased humanity. A little observation and experience, however, dissipate our illusion, and we find that a large number of the applicants for admission are evidently not actuated by such motives. When we come to scrutinize their course we find them evading the legitimate labors of their profession—catering to the rich, neglecting the poor, striving by underhand and dishonorable methods to supplant others, and by artful maneuvers to secure to themselves a lucrative practice. Or we shall find them, by falsely assuming to possess superior skill in some specialty, to endeavor to place themselves in a position where with little labor and no sacrifices they may attain to coveted honor or emolument.

It is evident indeed that such persons have never had a proper love for their profession, or a just sense of its importance or of its responsibilities. Flattered with the idea of being called a "doctor," or allured by some low and vain ambition, they have undertaken duties which they find altogether distasteful, and for which they are wholly unfitted from the very constitution of their nature; for it may be said as truly of the physician as of the poet, "*nascitur non fit.*" It is hence to be expected that they would make the profession a mere instrument for their own personal and pecuniary advantage, wholly indifferent to the welfare of the community of which they should be the most active guardians.

To some persons and in a certain point of view it appears strange that the efforts of these tricksters should prove so often successful, and that society should so readily yield itself a prey to the innumerable

charlatans who swarm in every direction. Humbuggery indeed would seem to be one of the most profitable employments of the age, and one is almost constrained to believe, as the poet says, that

"The pleasure is as great
Of being cheated as to cheat,"

since the oftener individuals are victimized, and the more egregiously they are deceived in the vaunted efficacy of patent specifics and special remedies, or humbugged by the blandishments and tricks of some pretender to medical skill, the more readily they seem to hearken to the flaming advertisements of the nostrum-vender, or yield to the seductive arts and pretensions of any new impostor. Or must we conceive so meanly of mankind as to suppose the great majority are mere simpletons, as seems to have been the judgment of one of the fraternity in former days, a celebrated quack of London? He had over his door in large letters,

"Within this place
Lives Doctor Case"—

a couplet which it is said gained him more money than Dryden received for all his verses. On one occasion he was standing on the steps of a hotel along with an eminent physician who had but a moderate practice. "Sir," said the latter, "how does it happen that you who have never studied the profession have so large a practice, while we who are known to be skilled physicians have so little to do?" "How many persons do you suppose," said Case in reply, "have passed by since we have been standing here?" "About twenty," replied the physician. "And of these," inquired Case, "how many think you are wise men?" "Probably two out of the entire number." "Then," said Case, "those two when sick will send for you; the remaining eighteen will apply to me."

Are mankind then really "mostly fools," as Carlyle would say; or is it some strange infatuation that induces a man, who has too much good sense to commit his watch to a blacksmith for repairs, to expose the far more delicate and mysterious structure of the human frame to the stupid tinkering of some pompous and conceited ignoramus who assumes the title of physician? And must real merit remain for the most part in obscurity, while imposture and deceit boldly assume control of the dearest interests of society? Can the profession itself do nothing to awaken the community to a sense of its danger, and to diminish at least if it may not wholly abolish the

empiricism which in this free country threatens to overwhelm the entire population?

It seems to me that in any effort of this kind the attention should be largely and perhaps primarily directed to the druggists, who have so largely increased of late, and who seem to depend for their success mainly upon the vending of nostrums and patented preparations, which their interest induces them to palm off upon the community. These, in every form that ingenuity can devise, are paraded in flaming advertisements before the public, and infallible cures for every complaint that flesh is heir to are sent by traveling agents to every habitation in the country, while their virtues are blazoned upon the rocks, the bridges, and the fences that face the public highway. It is incalculable the amount of evil thus inflicted upon the community.

How often do the sick allow the favorable moment of relief to pass away while trusting to these nostrums, which are either utterly useless or dangerously unsuitable! Pleased with the idea of "Ready Relief," bewitched by "Wizard Oil," smitten by a "Pain-killer," intoxicated by the "Wine of Tar," or stupefied by a "Soothing Syrup," the unfortunate dupe places both his money and his health at the mercy of unscrupulous sharpers or scheming speculators, and sends for a physician only perhaps when disease has made such progress as to be no longer curable.

But not only does the amazing propensity to swallow down at once the marvels and the medicines of impostors render the patent-nostrum business a curse to the people and an injury to the regular practitioner, but it diverts likewise the attention of the druggist from his legitimate calling, so that it is now rare to find one competent to fulfill his proper duties. Often of late has the public been startled by the fatal "accidents," as they are called, which have occurred from the ignorance of those who have mistaken the prescriptions of physicians, or have unlawfully presumed to refill these at the sole instance of the patient. Fatal errors of this kind seldom or never occur in Europe, where the pharmaceutist is prepared for his business by many years of careful study, and admitted to it only when, after strict examination, he has obtained his credentials from proper authority.

Here, however, where any one is at liberty to compound and vend medicines, and where the druggist depends so largely upon the sale of ready-manufactured nostrums, there is little inducement to a careful

study of pharmacy, little sense of the sanctions and responsibilities which properly appertain to so important a calling. The consequence is that we have the dangerous mistakes referred to, which naturally fill the public mind with fear of medical prescriptions which may be so fatally interpreted, or which create doubt of medical skill when they fail to effect the end desired, through undetected error in preparing them, or the deterioration or adulteration of articles designated. As though these things were not enough to debase and discredit the business of the apothecary, it is notoriously true that many so engaged take advantage of the permission to keep alcoholic stimulants for medical purposes to traffic in these as beverages, and convert what was designed for the benefit of the community to its destruction. How shameful is this evasion of public law! How humiliating and how disgraceful to apothecaries as a class that so flagrant an offense against public sentiment and public order should be allowed to attain to so great a magnitude without any active measures for its repression! It is impossible that the medical profession can long tolerate such a condition of things without being itself more or less implicated. For its own protection as well as that of the community it must withhold all countenance and patronage from those druggists who thus disgrace their business, or it must again resume the department of pharmacy, and each practitioner dispense his own medicine, as was customary some years ago, when no precept was more earnestly impressed by the professor on the medical student than this:

"Attend, prescribe, the medicine make and give."

It is to be hoped, however, that pharmaceutists will themselves speedily adopt measures to restore their calling to its proper position, and discard from their fraternity those who would dishonor it.

As to the amazing charlatanism which exists in the community among those called "doctors," and which interferes in so many ways with the true honor and character of the profession, it is surely imperative upon its real members to make the most strenuous efforts for its repression. As the community in general is unable to judge in this matter, it is for the profession itself to enforce those rules, the necessity and benefit of which experience has long since confirmed, and which are alike the dictates of reason and of humanity, since they have for their object to secure not only the just rights of the practitioner, but the safety of the patient. Amid the competition now existing,

and from the inability of men in general to judge of medical qualifications, they fall an easy prey to the arts of pretenders, and it behooves the rightful members of the profession to draw a broad line of demarkation between those who are entitled to the confidence of the community and the crowd of scheming medicasters who usurp the name and the office of physician. Those who, devoid alike of the talents and of the acquirements necessary to raise them even to the dead-level of their calling, resort to the mean deception of passing for what they are not, and often succeed by adroit wire-pulling and artful electioneering in cheating the public and passing themselves for sages—to them the popularity which springs from pretending and pleasing is as good as that which comes from toiling and deserving, "and to sell surface earth—which is so readily gathered—for gold is easier than to delve in the mine after the true metal."

Nor is it less the duty of the profession to expose those false systems of medicine which, resting upon a single idea, sacrifice to this the established laws of physiology and the accumulated facts of experience. The thoughtful and intelligent at least may thus be guarded against imposture, and the just claims of the true science of medicine be vindicated before the public.

No one is more ready than the regular practitioner to admit the mysterious nature of life, the wondrous delicacy and complexity of those organic systems through which it manifests its power, and the uncertainty which necessarily often attends the practice of medicine even in the most competent hands. No one is more prompt than he to repress that undue confidence in medical treatment which leads to disappointment, or to acknowledge the inability of medicine to resist those morbid actions against which life itself is unable to contend. But this uncertainty and this occasional inefficacy of medicine is admitted in the interests of truth, and not in those of quackery. That conspicuous love of truth, that candor, that patient spirit of investigation, so characteristic of the true physician, since at least the days of Hippocrates, in admitting the limited power of art as compared with nature, by no means admits that false principles or bold experiment should be substituted for established laws and incontrovertible facts. No more does the jurist who admits the "glorious uncertainty of the law" imply in so doing that men should commit their dearest worldly interests to ignorant and boasting pettifoggers

rather than to those familiar with the true principles of jurisprudence. The mass of mankind, however, are governed much more by impulses and superficial views than by reason and reflection, and it is hence not strange that charlatanism in its various forms should prevail so largely in our country. It is not strange that numerous one-idea systems should captivate by their apparent simplicity those who are ignorant of physiology.

Thus the single principle of Hahnemann, the reputed founder of homeopathy, that "what produces a disease will cure it," pleases some minds, and they are ready to believe that a complete system—a science, in fact—can be constructed upon this foundation. They accordingly venerate and extol the name of Hahnemann as the author of this grand discovery. But had we space in this paper it would be easy to show that the principle of which they boast was in point of fact known long before the time of Hahnemann. For what else, in a surgical sense at least, is involved in the sympathetic method of cure which prevailed in ancient times, and which is now regarded as a ridiculous piece of superstition? It was a hundred years before the time of Hahnemann that Dryden, in his drama of the "Enchanted Island," represented Ariel as thus enjoining Miranda:

> *Ariel.* Anoint the sword which pierced him with this
> Weapon-salve, and wrap it close from air
> Till I have time to visit him again.

And in the fourth scene Miranda enters with sword wrapped up:

> *Hippolito.* Oh, my wound pains me!
> *Miranda.* I am come to ease you.
> [*She unwraps the sword.*]
> *Hippolito.* Alas! I feel the cold air come to me;
> My wound shoots worse than ever.
> *Miranda.* Does it still grieve you?
> [*She wipes and anoints the sword*]
> *Hippolito.* Now, methinks, there 's something laid just upon it.
> *Miranda.* Do you find no ease?
> *Hippolito.* Yes, yes; upon the sudden all this pain
> Is leaving me. Sweet Heaven! how I am eased!

It is true that the spear was not here administered in infinitesimal doses, but it was made the instrument of cure upon the identical principal that *what produces a disease or injury in the human system will cure it.* And though the healing salve was applied to the *cause* of the injury rather than to the injury itself, who can prove that this was not

at least as great a proof of wisdom as the exhibition of infinitesimal doses of such an article?

But were we disposed to argue the question of antiquity, there is abundance of evidence to show not only that this boasted principle of cure was understood before the time of Hahnemann, but that it was claimed to have been successfully put into practice in the island of Sicily. For in that familiar legend which has been handed down from our remote ancestry, and doubtless from the days of King Alfred has been impressed upon generation after generation at the very dawning of intellect, it is distinctly stated that

"There was a man of Sicily,
And he was wondrous wise;
He jumped into a quickset hedge
And scratched out both his eyes:
And when he *saw* his eyes were out,
With all his might and main
He jumped into another hedge,
And scratched them in again."

Now nobody can deny that we have here a clear exemplification of *similia similibus curantur*, and that what produces an injury or disease will cure it; and, though the cases are surgical, the principle involved is the same. Hence, as antiquity is supposed to confer a certain amount of respectability, homeopathists ought to cherish such evidences of the early existence of their system.

Seriously, however, it is the advocates of this absurd system that are now clamorously demanding recognition from regular practitioners, and moving heaven and earth in order to obtain a share in the medical supervision of public institutions, and to be allowed to act as members of "boards of health;" nay, to be admitted—Heaven save the mark!—to regular consultations. And there are not wanting popular journalists so utterly blind to the interests of the community, and so infatuated with notions of their own in regard to matters which they do not understand, as to boldly advocate measures which, if conceded, would at once strip the medical profession of all its claims to the confidence of mankind, and render nugatory all its thousand truths, discovered facts, and oft-repeated experiences from the earliest period of civilized human society.

The true physician can have nothing to do with one-ideaism in any of its forms, whether homeopathic, hydropathic, eclectic, exanthematic,

electric, or uroscopic. His system embraces every rational method of cure, derives its remedies from every kingdom of nature, subjects its conclusions to the most indubitable tests, and gladly accepts every new truth which experience may confirm. Liberal in its principles, free in its discussions, unlimited in its researches, it scorns the narrowness of the empiric, and refuses to give countenance to any boasted *arcanum*. In the language of another, "It sweeps in its high scope the whole sphere of physical and moral science. It leads you into all the recesses and arcana of nature. It is a pursuit the zest of which is forever heightened and freshened by new discovery, and which perpetually opens new vistas of curious or delightful or sublime speculation. It ranges from the contemplation of the mightiest elemental forces, through the most simple and most intricate developments of primordial law, down to the study of the minutest atoms which only the microscope sees floating in the viewless air. And yet, comprehensive as it is, it has none of the coldness or barrenness of abstraction about it. You can grasp its results as with your hand—nay, as you would grasp the hand of a friend; for they are as full of substantial sympathy as of thought. Like the Chaldean, it watches with its guarded flocks around it, and warms the young lambs in its bosom, while its gaze is on the stars. All the fruits of its grand ventures come back with it to visit the abodes and comfort the afflictions of men. Surely its functions are a worship in themselves, and its priesthood should enter its temple with heads uncovered and uplifted hearts."

Numbering among its members from the most ancient times more than an equal proportion of those who constituted the very *elite* of mankind, the eminent, the wise, the good—men renowned for every species of excellence—it remains still adorned by the highest talent, the most varied learning, the most unselfish devotion to the true interests of society, the noblest aims, and the purest motives. And if it will but remain true to its principles, it must, from the very nature of the case, continue to merit and to receive in the future, as in the past, the approval and the confidence of the intelligent public.

HAS MEDICINE AS A SCIENCE ADVANCED?

BY J. J. SPEED, M. D.

Has medicine advanced? Are the doctors of to-day at all superior to those of old? The quiet fireside with Winslow's syrup on the mantel and the busy mart chaffering over a gross of some universal invigorator have asked and answered these questions a thousand times. But with such surroundings the problem is forever unsolved. There is no patent-right upon life and health. Science has no secrets; like the clear shining of a star, it is all light.

Not in the presence of nostrums and patent medicines, but in the hearing of scientific men and an educated people, I propose to contribute my share toward an answer to these questions. Let us deal fairly with each other, and see who are right, those who doubt or those who believe. The desire of the physician and the desire of the people must be one. The ends we aim at are the same, however widely we may differ as to methods; and methods themselves must ultimately be the same; for I accept in medical as well as in moral philosophy the theory of De Quincey, that "man is ever coming nearer to agreement, ever narrowing his differences, notwithstanding that the interspace may cost an eternity to travel. Where the *agreement* is, not where the difference is; in the center of man's unities, not his diversities; of his veritable weal, not his antagonisms; *there* lies the magnetic center toward which all thought that is potent and all philosophy that is faithful are eternally traveling." This I take to be true. Drifting toward a common center, that center in science as well as morals is truth, and truth is one. *There* tends the drift, moved forward by the original order and persistent demand of man's ideal best. Though many-sided and often false, the highest that is in him never loses sight of the supreme and finally true thing. Mistakes, conflicts, falls,

terrible disaster wait upon him; but renewed strength comes with the rising up; a clearer eye sees farther into the future, and a stronger arm cleaves its way to securer footing. The ages wait—man goes on. The great fruition is hereafter—always has been, is yet. To-day is better than yesterday, and to-morrow will be better than to-day; for the feeble or the strong light which each man generates is ripening and mellowing the unperfected fruitage. Not in any thing is yet the outcome of the highest. But human thought is sleepless, and with its backward and forward look it conceives of treasures in advance as far richer than ours as ours are richer than those of old.

Holding to this as a central idea, true of medicine as of all science and all philosophy, I propose to run rapidly over the sources of medicine as an art, simple and unwritten, dwelling for a moment upon the chief nationalities which have contributed most to its growth, giving a becoming prominence to a few of the master-spirits which have signalized their generations, and thus bring the subject down to our own times—times which have culminated in a garnered fruitage more magnificent than the wildest fantasies of the old-time philosophies. Having done this, it will require little effort to show that the doctors of to-day are superior to those of old.

Medicine as an art unquestionably had its origin in the necessities of man's nature, and long antedates all written history. From the day that the sorrows of man and woman were multiplied, that thorns and thistles sprang from the fresh earth, and the sweat of the face was necessary to the getting of bread, we have all the concomitants necessary to human suffering. Relief from suffering is the demand from which it sprung. "Pain is Nature's cry for help." However imperfect the relief, the cry is still importunate; however crude the appliances, whether the touch of a hand, the tone of a voice, the application of a leaf, the agitation of the air, the draught of cold water, it is human sympathy struggling with human suffering. From that struggle was born the art of physic, and the spirit of Benevolence was the presiding genius at its birth.

Instinctive want, experiment, observation, reason, this is the order out of which medicine has grown. Whatever is done for the relief of instinctive want is the first *experiment;* the result for good or evil is the first *observation;* accumulative observation stimulates the human brain to connect this and that, and *reason* is applied to observable

facts. Many centuries must have elapsed before accumulated facts, under the action of reason, brought the art to any such stage of forwardness as to be recognized as a separate and tolerably defined system; for all science and all art is of slow growth. The world's systems of jurisprudence have risen from very crude ideas of *meum et tuum*, until they embrace in their magnificent net-work of to-day the rights of every tendril and fiber of the most complex civilization the world has ever seen. Architecture has grown from mud-walls roofed in by branches of trees to the cathedrals of London and Cologne. Bridge-building has grown from fallen trees and rough slabs to the interlacings of wire which span Niagara; music from the simple heart-note blown through hollow reeds to the orchestral renderings of Mozart and Handel and Beethoven. So through the same long ages of laborious thought and infinite painstaking has medicine reached some approximate perfection to-day.

The earliest records which indicate to us the existence of a class of persons discharging the duties pertaining to medicine are the Hebrew Scriptures. While not professedly scientific, the Pentateuch is replete with hygienic instruction which is fully abreast with the latest writings upon that subject. These writings, however, are not to be regarded as giving to that people precedence in the cultivation of medicine; but indicate clearly what is confirmed by monumental records, that *Egypt* is the quarter which first gave form and substance to the healing art. By reason of imperfect history, blended with much fable and overhung by the mists of a remote antiquity, little else is known. Thoth or Hermes is claimed as the author of all art and all science. Who *he* was, whether man or god or representative idea of philosophy, it is difficult now to determine. Writings claimed for him contain dissertations upon the gods, advice to kings, uses of astrology, public worship, laws of the priesthood, and a treatise upon medicine; the authenticity of all which is doubted, and doubted chiefly upon the ground that there is evinced a knowledge of anatomy more minute than is consistent with that early morning of the world. Not so, however, was their very natural habit of exposing the sick and the afflicted at the wayside in order that the passer-by should see and prescribe. This primitive habit would be singular and inhuman in our day; but to *them* it secured the best experience of the time. Cursory and superficial as the examinations must have been,

and limited as the therapeutics was, they had no other resource. Whether there was much wisdom or not, the patient had a multitude of counselors.

In process of time these prescriptions became too important for single memory. They were then inscribed on the walls of temples, and guarded with all the sacredness which attaches to a nation's archives. The priests of the temples, having constant access to these inscriptions, presently assumed exclusive control of the sick; but were required to practice in accordance with the writings on the walls. Any departure from them, if followed by death, was punished with death; and the atrocity of the law was vindicated by the assumption, generally true, that the combined experience of the many was superior to the judgment of one. This law was of course an obstacle mountain-high to all progress in the healing art.

In later times and under better auspices much learning was accumulated by the early Ptolemies, and stored in that magnificent library of Egypt's capital city, the burning of which destroyed in a day the philosophy of five hundred years. By a strange coincidence, what was destroyed by one Cæsar was partially restored under another by his co-triumvir, Mark Antony; for Egypt's gorgeous beauty, who held high carnival with the royal Roman in the courts of the ancient rulers, induced him to transfer to Alexandria the rival library of Pergamus; and thus the Ptolemy blood of Cleopatra perpetuated what the early Ptolemies established.

Grand as that old Egyptian civilization was, and enduring in many aspects as are the monuments of its existence, the records are not rich in contributions to medicine. The very names which were a glory and a heritage have passed away, and to the general mind of to-day ancient Egypt is suggestive only of monuments and mummies. The truth of time has eaten into all her records, and her glory has passed into a dream.

Boastful as we are of this nineteenth-century light, the miracle-worker is found as readily to-day as the frogs of Egypt under Pharaoh. They are multitudinous, each armed with a panacea, and the demand is *try this*. Scientific medicine asks *what good* does it do? Not simply what is its physiological action, but what is its therapeutic action; what is its curative value? Admit its appreciable physical action, seen and known of all men; what good have you

done when you have secured this action? That's the question for us. The observed history of disease has cut up by the roots the idea of special remedies for all diseases. The old search for sovereign remedies, like the alchemist's search for the philosopher's stone, is not a part of the life-work of true and sane men to-day. Dr. Gross, who is good authority, after consultation with prominent druggists of a large city, says that of the fifteen hundred drugs usually in store the best practitioners use only about thirty. Ponder that awhile.

During these early periods the medical historian looks in vain for any *principle* underlying the practice of physic. He finds only crude experiment—the consultation of the stars or spirits, gods or demons or oracles. Not until a much later period, when philosophy took rank as a pursuit among the learned, do we find that theories of life, theories of disease, theories of the action of drugs are taking hold of the minds of medical men, and giving shape to their teachings and their practice.

The two representative names which form a connecting-link between the earlier ages and times which approximate our own are Hippocrates and Galen. By almost universal consent has Hippocrates been regarded as the Father of Medicine. Antedating the Christian era by four hundred years, his age shows no anatomy, no physiology, no pathology; was *full* of disputations about the principle of life, transcendental speculations as to the entity of disease, dissertations on fire and moisture as elements of human organization, treatises upon dreams and portents; and yet in his writings there is much outcrop of practical truth. The best physician, says he, "must understand the nature of the disease before him and estimate *how much* it *exceeds* the constitutional forces. This is the great thing yet to learn." Here we have the *vis medicatrix naturæ*—a doctrine of which the world has never since lost sight. His aphorisms, while disjointed sentences, each having little bearing on the other, constitute a mine of curious riches, which at the end of the year 2000 may yet be worked with interest. There are gems still hid away, and perhaps none of more value than this: "Life is short, art is long, judgment difficult, experience deceptive." How sharply this cuts into the world's *post hoc, ergo propter hoc!* Yes, judgment *is* difficult, experience *is* deceptive. By *almost* universal consent,

I say, he is called the Father of Medicine. There are those who refuse to admit this claim, holding that he simply gathered together the various streams of learning coming down from remoter peoples and run them into a common channel. It is by this argument that the title is withheld, and yet this modern critic is an American, a citizen of the continent which holds the Rocky Mountains, from whose slopes trickle the thousand streams which unite to form the Father of Waters. As well deny to the Mississippi the title of Father of Waters as to Hippocrates the title of Father of Medicine. In either case the streams from many sources presently run into one magnificent current. His teaching dominated the medical world till the genius of Galen asserted supremacy in the second century of the Christian era. All the learning of the ages was concentrated in one common focus, and the illuminating power which revealed it to succeeding times was the brain of Galen. Imperfect knowledge, of course; but he had it all: anatomy, physiology, pathology, therapeutics. All *this we* have enlarged and made more minute; but what was then known Galen knew. It is said of him "that in thought and in action he was free, and that free thought evinced superior genius, improved by the arts and sciences of his own and preceding ages. In every page his character stands out in bold relief. His works are a library of past events, an encyclopedia of facts from every branch of medical literature, forestalling many of the extraordinary results of our own times; and even experiments and operations considered novelties were familiar to him." If the student of to-day will rub away the accumulated mold of sixteen centuries, he will find much that he read in yesterday's journal inscribed upon the monument which Galen erected, which inscriptions are immortal, outlasting parchment or stone, for truth can never perish. Very large was the aid he gave in drifting the medical mind toward that center to which human thought is perpetually traveling. A simple fact in the geography of many countries, familiar to most of us, is the existence of a lost river. Its waters dip for a space and disappear, but at greater or less distance re-appear with renewed freshness and redoubled volume. So in the middle or dark ages the stream of knowledge went out of sight, and left a blank in human progress for nearly one thousand years, yet starting afresh in larger proportions and with infinitely added force at the revival of letters in the fifteenth century. Emerging

from that long night of the ages, man sprung to the full might of his manhood, relighted the torch by which hidden mysteries are sought, and with an energy heretofore unequaled strode grandly forward on that pathway which has become the highway of the nations, and which points toward the secret place where Truth sits forever—for truth sits somewhere, else God is a myth and human life a failure—sits waiting to reward her worshipers with rich treasure, and will still wait till found and recognized by the last earnest searcher upon the earth. System after system has risen, lived its day and declined—declined often in the life-time of him who laid its foundations. However ingenious, however imposing, it must go down where its philosophy is false; and yet each in its turn has contributed something to the relief of human ills and to the gradually lessening rates of the world's mortality. Medical science may not claim even yet to have set back the hour-hand of time, but we do claim to have added other figures to the dial-plate of humanity, and to have postponed by a tithe the sunset of life. And other figures will yet be added, for improved therapeutics go hand in hand with improved philosophy, and generation after generation will witness a diminished death-rate and a lengthening of the years to man—a postponed breaking of the golden bowl.

With this renewed spring of the human mind the elementary studies, anatomy and physiology, received a new impulse. Faculties of medicine were enlarged, public halls for dissection were opened, chairs were paid out of the public treasury, and permission given by law to look into human bodies. Hygiene began to press to the front and demand attention, for in no capital city of Europe was there any municipal regulation touching cleanliness in houses or streets. All forms of *disease*, however, seem to have been treated upon a more philosophic basis, and the savans included in their teachings a wider scope of thought, embracing the history and causes of disease, public and private hygiene, and surgery. Surgery, which has shone so resplendently since, was at a low ebb. The skill of to-day was undreamed of, and the delicately-fashioned instruments which are familiar as playthings to the student now were unknown. But under the lead of Ambrose Paré, that great treasurer of knowledge, it began to assume proportions and an importance which it has never lost. Surgery has gone on with astonishing strides till man has become

a toy in its hands, to be taken to pieces and put together at will. A perfected anatomy and the improved instruments for examination have rendered almost transparent the human body, and brought its organs and functions as visibly before the eye as the bee and the honey-comb in its glass hive.

An immense upward impulse was given to science by the discovery in the seventeenth century of the circulation of the blood by Harvey. There had been glimmerings of light long anterior to his time. The conception of the older anatomists was that the *liver* was the great blood-maker, that the veins were blood-*carriers*, and the arteries were *air*-vessels. The communication between the heart and the lungs; the passage of blood from one to the other; the changes of color, from one vessel light, from another dark; and the influence of respired air in its production—all this was involved for generations in inextricable confusion. One torch after another threw some light upon the dissection-tables. But not till after seventeen centuries of travel toward the magnetic center did the truth dawn. Then the patient labor of the English Harvey, gathering up the rays of all the ages, and adding to them the white flame of his own genius, lay bare forever the mechanism of the inner and the outer flow, and science saw and recognized the *circulation* of the blood.

This discovery was soon followed by a more perfect acquaintance with the function of respiration and the anatomy of the nervous system—a most intricate and complex net-work, whose functions and diseases have given and do now give infinite trouble to physician and patient all over the world. It is in these three systems—the vascular, the respiratory, and the nervous—that we have the sources of vitality and the avenues through which death approaches. A knowledge of their structure and functions is essential to him who proposes to mitigate their ills and set right their departures from health.

The succeeding century (eighteenth) developed that great boon to humanity—the practice of vaccination. It has given immortality to the name of Jenner. The simplest of all operations, it is the most beneficent of all, and the most comprehensive in its influence. True in its philosophy, it is *certain* in its results. It is the mole-hill which has grown into a mountain. The mole-hill was ridiculed and scoffed at by our ancestors; their descendants over all the earth gaze with a feeling akin to worship upon the mountain. A single coral insect at

the bottom of the sea is an object of unimportant interest in its silent though ceaseless work, but above its solitary moorings in process of time a continent rises covered with verdure and beauty and life; so from the long-unobserved pustule on the hand of the English milk-maid Jenner built a system of thought which has preserved the beauty and vitality not only to a continent, but to the world. All honor to the name of Jenner!

Laennec listened through his cedar tube to the machinery of the chest, and mapped out for us the heart and the lungs in their morbid and healthy sounds, and put the world upon a track as untrodden as a native forest. As a means of diagnosis it is wonderful in its accuracy, and has led to results more minute and more comprehensive than were anticipated even by its author.

While these material advances were being made the times were rife with speculations, prolific in theories. They sprang up in rich exuberance from the re-awakened intellect like blades of grass from the renovated earth. Much was worthless, much meretricious. Here reference is made to the systems of Van Helmont, Stahl, Hoffman, Cullen, Sylvius, and Brown. And a little later another extravaganza flashed into life, bewildering the transcendental Phylosophistus of Germany. Preying upon the gangled and out-of-tune nervous systems, first of England and then of America, was the Hahnemannic infinitesimal *similia-similibus-curantur* system of homeopathy. Of all the wild vagaries it is the wildest, of all cobwebry it is the most gossamer, of all attenuations the finest spun. It is the very delirium tremens of medical philosophy. Away, away with such transcendent folly!

The *facts* which have been gathered by the old cultivators of this field of medical science are a legacy for which we are thankful; we remember the workers with real gratitude for their facts. Their *philosophy*, which filled libraries and constituted the learning of the times, is just as much a part of the world of to-day as the beetle which was pinned upon the wall by the cruel or curious boy a thousand years ago. The great mistake of all their systems was the underlying theory that disease was an entity—an entity to be antagonized by some special medication directed to it as such. It was the idea of poison and antidote, and still lingers like a superstition in the popular mind, and shows its natural outcrop in the demand for panaceas; and panaceas come and go, doing good to no mortal man who takes them, but putting

money in the pocket of him who sells them. The knave fattens upon the credulity of the weak.

The nineteenth century has been prolific in men of genius who have lighted up by new studies much that was obscure to the closet philosophy of their predecessors. Physical science has driven the world forward by an impulse immeasurably greater than had yet been felt. Its revelations uprooted opinions regarded stable as the mountains; for they were held to be *grand* in the world *of thought* as these are grand in the world of nature. Mechanic skill lent its aid to the quick progress of investigation by the production of instruments so perfect in their adaptation and finish that mysteries have been brought to our inspection which had long eluded the search of prophets and priests of older dispensations. Their unfound treasures are our possession, and that possession places us in the van of all the ages.

The three great nations of Europe—Germany with her patient thought and intense working power; France with her minute analysis of facts drawn from crowded hospitals in her chief city; Great Britain with philosophic habit and her determined spirit—and America with her strong common sense and quick appreciation of the practical, are to-day in possession of a science which, though not perfect, is a monument to learning and to labor as far transcending all preceding structures as the Pyramids of Egypt transcend the toy-houses of the nursery.

We work in separate lines all toward a common center. In the single fact of a division of labor we surpass all former times. The colossal proportions of a science which is the growth of three thousand years forbids its thorough grasp by any one mind. Thus we have put away in great measure the attempts to embody in a thousand pages of "systematic medicine" the minute and perfect knowledge which the age demands. We look to monograms for that. We look to him who has pursued a given line of thought till he has reached the ultimate, so far as the ultimate can be reached. In this locomotive age the thousand-page book is too heavy; while we pore over its surplus eight hundred pages the world has gone past us, and we stand agape at our isolation. We want the monogram which holds the distilled essence of what is known upon any given subject, and the press of the world is printing it for us with a rapidity unparalleled in any former period. We take in at a sitting the labor of a life.

Our representative names are Virchow, Rokitansky, Niemeyer; Watson, Simpson, Forbes, Bennet, Reynolds, Williams, Chambers, Anstie, of Great Britain; and American names from Boston to New Orleans. We have the vaccine of Jenner, the stethoscope of Laennec; and added to these we have the perfected microscope opening up to us the unseen world; we have the hypodermic syringe, through whose needle-point we pour a drop of lethe into the very lap of pain, and with absolute certainty hold in abeyance the most terrible suffering; we have the sphygmograph, which writes down for us in legible lines the varying pulse-wave in its morbid flow; the pocket thermometer, which tells us the grade of fever at morning, noon, and night, and perchance reveals some hidden source of irritation undiscoverable by touch or sight; the laryngoscope, which opens up to the eye the sources and the pathway of the human voice, and exposes to our touch the very chord which is out of tune; then the ophthalmoscope, which exposes the mechanism of the eye, and brings palpably before us the fiber or the mote which perverts or dims your vision; and that wonderful contrivance, the aspirator, with its hollow needle and its pump-action, by which fluid collections in any part of the body are quietly pumped out—a needle so delicate as to reach without hazard any cavity of the body. The pleural cavity, the abdominal cavity, the pericardium, the intestines, the liver—all these have been reached with safety; and it is hardly unreasonable to look forward to the removal of fluid collections within the cranium—effusions upon the brain. Then we have the elastic bandage, which secures a bloodless operation. The surgeon of old, with his rolled-up sleeves, his huge knife, and his white apron all blood-sprinkled, was a spectacle ghastly and repellant enough even to strong masculine nerves. The surgeon of to-day, in ordinary apparel and in perfect placidity, takes off your arm or your leg, and loses no drop of blood—does not soil his wristbands nor stain even the blade of his knife. And added to all this we have chloroform, which has uncrowned the old king Pain, and given us the gentler reign of that beneficent spirit we call Anæsthesia.

The representative idea of our time is the *vis medicatrix;* the especial study is the history of disease. The doctor who fails to recognize, or recognizing fails to regard, the importance of the *vis medicatrix*, is constantly prompted to meddlesome interference with forces which are beyond his reach—prompted to the administration

of drugs which increase the perturbation without removing or in any degree modifying the sources of it. Instead of making matters *better*, he makes them worse by obscuring the natural history of the morbid phenomena. There is no judicious medication where the physician goes to the bedside with the idea that disease is a localized entity whose removal is secured by the routine administration of specifics. The surgeon with his knife or his forceps removes a splinter of wood or a spicula of bone with absolute and unerring certainty, and his patient goes on his way relieved. Disease in the hands of the physician has no such entity, no such localization, and the physician has no such power over its removal, and he *ought never* to *claim* it. A distinguished American writer says, "The importance and usefulness of the profession, instead of being diminished, will always be enhanced exactly in proportion as it understands itself, weighs justly its own powers, and professes simply what it can accomplish. The statesman can not control the destinies of nations nor the military commander the event of battles. The most skillful pleader may fail to convince his hearers, and the best pilot may be unable to weather the storm. Yet it is not the less necessary that responsible men should study deeply and understand the science of their respective vocations." Unquestionably the aim of medicine is to arrive at the truth as it underlies disease, and all the efforts of human reason to remove it must travel toward that magnetic center.

I stated a little while ago that medicine as an art was based upon observation. Now, as the result of long-continued observation, it is ascertained that many diseases pass through their various stages and disappear without the aid of medicine. Disease in its essential nature is a lowering of vitality, and yet the patient recovers. Now the force which sustains the man under this lowered vitality and enables him ultimately to regain his footing is the *vis medicatrix naturæ*. When your hand is cut and bound up in a strip of simple cotton or linen, and to-morrow is well, the force at work is the *vis medicatrix;* when your arm is broken, the broken ends put in apposition and held still by splint and bandage, and in twenty or forty days is well, the force at work is the *vis medicatrix*. You take no medicine, apply no medicine; but are *taken care of*, and recover.

If this is the true philosophy, and I believe it is, it becomes the physician to estimate as best he may the relative force of the morbid

influence, which is the *death tendency*, and the *vis medicatrix*, which is the *life tendency;* and the proportion between them affords the only rational indication for your treatment, and is the real basis of your prognosis. It is not granted that as your diagnosis reveals pneumonia, you shall therefore fall to work with the routine medication laid down in books as good in pneumonia. You must base your treatment upon another philosophy than that. If the morbid force is measured by ten and the *vis medicatrix* by twenty, surely your treatment would not be the same as if the forces were equal. There you have at the outset a life-and-death struggle, and you give all your energies to the bolstering up of that lowered vitality in its contest with an equal enemy. You husband all the resources of nature, and summon all the resources of art, and guard vigilantly against all undue influences from without. In the first case you would hold pain in abeyance, impose rest, and wait, secure in the faith that the medicinal force of nature would accomplish what you had often seen her do so well, so surely. Instead of administering drugs with the hope of antidoting a given disease, we adopt such measures, internal and external, as will support organization or aid the involved organ, prompting it to freer action or holding in check action already inordinate. Instead of attempting to lift the ship out of waters which threaten its wreck, *which we can not do*, we steady the enginery, put under such buoys as we can, and see to it that she is kept steadily in the channel, and headed to such harbor as the pilot knows nearest at hand. The proportion between the wreck of the vessel and the staunchness of her build must determine the certainty with which the passage is made. There may be such disastrous wreck as shall send her to the bottom, beyond the power of all human aid. There may be only such unimportant damage as shall justify the master in giving perfect assurance of safety. When he gives that assurance be on your guard how you disregard his judgment, and in your ignorant fear raise unnecessary alarm. Be on your guard how you call up passengers as ignorant as yourself, all armed with hatchets and mallets and oakum and camphene-lamps and matches—tremulous, bewildered, frantic, ignorant. Be on your guard how you tamper with engine and cordage and ballast and sail. Your meddlesome kindness is disastrous. Your ship goes down unless the master is *indeed a master*.

Now, while I denounce in emphatic terms the practice which rests

upon specifics and panaceas, either in the hands of friendly ignorance or of the miracle-working but charlatanic priesthood, I am not to be understood as disclaiming all virtue in medicine and all need for the physician. What would become of the torn edges of your hand-wound but for the doctor and his adhesive strips? What result to your broken bone without apposition and bandage? What would be the result of your pneumonia in its departure from its natural history, setting up in six hours a morbid influence greater than the *vis medicatrix?* No; my philosophy does not lead to that. On the contrary, I have infinite faith in my profession. Faith in its ability to heal, and help where it can not heal; faith in its ability to save life, or support it under trial where it can not save; faith in its ability to allay pain, *the great torture-power* of disease; faith in its ability to tone up and hold to its life-work the spirit of despondency.

The profession of medicine is an immense power, and stripped of the charlatanry which creeps in and stalks with such brazen effrontery through the sick-chambers of helpless credulity, it is among the highest callings of men. But no element of this faith touches any where, at any time, in any way the monstrous pretension which imposes upon ignorance, and converts a beneficent calling into a money-changer's office. Now while I have this high faith, I do not believe that *practice* will ever be one, nor the results of treatment uniformly certain. Individuality in practitioners will insure diversity of prescriptions, and vitality in patients will modify the results. It is this principle of vitality which must forever keep medicine out of the list of certain sciences. The astronomer who has calculated for you one eclipse will calculate the next with absolute certainty; the optician who made his telescope will duplicate it for another; the jeweler who made your watch will promise with great certainty to keep it in exact running order, and make its precise match for your friend; he knows his work, and can repeat it; of this he is absolutely certain. But an infinitely more complex machinery is placed in your hands, and its main spring is tempered by fires whose force and sources you can never understand. This vitality is beyond the reach of human investigation, and forever forbids to medicine a claim to absolute certainty.

Instead then of proposing to work miracles, the fair man looks toward the history of disease, keeps well in mind the *vis medicatrix*

naturæ, and shapes his course by that. By history of disease we mean exactly what the words imply. We claim as a truth in medicine that different diseases have characteristics so uniform, so well defined, as compel in us a recognition of individuality, and authorize us to apply to them all the observation and reasoning which will embody and explain their natural history. Thus the languor, the *malaise*, the slight cough, the redness of the eye and its moisture, the fever, the eruption on the face, the neck, the chest, the body, the legs, and the subsidence to-morrow of fever and eruption in the order of their appearance, and wellness in four or five days, tell the story of measles, is the *life-history* of measles. You do not *modify* this life-history; it runs its course; so long as it lives its natural life you leave it untouched. To use an apparent paradox, it is healthful disease. But you don't know that it will pursue this natural channel, and thus you watch and wait—watch, not to cure measles, but to check up and correct any departure from its life-history. Or take a case which embraces all the agencies which we hold as instrumental in the removal of disease—an external wound, a knife-wound in the arm or thigh, a clean cut, as the books say. The edges are brought together and held in place by adhesive strips. So far the doctor. Irritation greater or less is set up, plastic material thrown out, and union takes place. This by virtue of the *vis medicatrix*, and in three or five or ten days, as the wound and the organization may be, the man is well. This is natural history. Apposition of parts by the doctor, healing process by the *vis medicatrix*, and the time occupied, all constitute the natural history. Now this is clear, definite, understandable as to the wound. Not quite so clear, not quite so well defined, yet very satisfactory, is our recognition of history and treatment in many other diseases. Medical authorities of high repute claim that appreciative history runs through very many of the formidable diseases with which we deal day by day—small-pox, measles, scarlatina, delirium tremens, rheumatism, typhoid fever, erysipelas, pneumonia, dysentery, herpes zoster, hooping-cough, and a long list of others. But the much-doctored people, as if fond of nauseous draughts, demand physic, more physic. When that illustrious old Scotchman, Dr. Abernethy, was pressed beyond endurance for medicine which was not needed he suggested to his importunate patient that Dr. Morrison, in the north of Scotland, was the man to

consult; his friend would come home well if he would only visit Dr. Morrison. It was a long ride and a rough one, but the patient took it. League after league he rode, found the town of Inverness, but no Dr. Morrison; nor had any Dr. M. ever been known there. Full of wrath and an unsatisfied yearning for physic, the patient returned to his home, and meeting the old doctor vented his spleen in hard words and charged him with fraud. "Yes, yes," said the determined old man, "it was a long ride; but how are you? You look better." "I am better; but no thanks to you. You gave me no medicine." "But I gave you a prescription, and it has cured you." Would that we had an army of Abernethys!

This importunate patient is the type of a class multitudinous as the sands, and their voice is ceaseless as the roar of the sea. Full of the relics of an effete philosophy, they require of you physic to remove disease, as if it were an entity you could touch and handle and throw away. It is the old cry of the horse-leech, Give, give, give us physic; don't wait, don't stand still. No, we won't stand absolutely still; only a little stiller than we used to do, for we know a little more than we used to know. And we'll medicate you too, only a little more gently and judiciously than Hercules with his club, which swung right and left, hitting perhaps disease and killing that, or perhaps nature and killing that. We propose to abandon useless heroic medication and hazardous experiments and adhere to recognized truths. We propose to discard the superstitions of an immature civilization and rely upon the observed facts of the ripest civilization the world has ever known. We propose to push aside into dark closets the multiplied and incongruous suggestions of a "comprehensive ignorance" and follow the lead of education and faithful thought. We propose to put our watches in the hands of jewelers and not of blacksmiths; to trust our locomotives to engineers and not to the rude wood-choppers fresh from the forest. We believe that an era has dawned and is lighting up the world; that science in all its phases has ceased to be guess-work and is approaching certainty; astrology, with its fantasies, has developed into astronomy with its certainties. The physical sciences have repudiated the old notions of the age of the earth, and geology is writing for us the history of the world. Autocracy is passing away, and the theory of representative government is jostling the thrones of all the nations; international

law and the spirit of arbitration is taking the place of unbridled self-will and the sword. The system of morals, as embodied in the Christian Scriptures, is becoming the basis of public and private action wherever there is written language; and language itself, under increased facilities of communication, must ultimately become *one*. Who shall say then that medicine alone of all the lines of human thought, and the subject of such high human interest, shall not also become one?

Having now run rapidly over some of the sources of the profession as it was, and conveyed to you an imperfect idea of what it is, I redeem my promise to embody some conception of the doctor of to-day, and see whether he is equal to the doctors of old.

The three chief elements which go to make up our highest type of the practicing physician are his powers of diagnosis, prognosis, and therapeutics—in plain English, what's the matter, what will be the result, and what are you going to do?

There can be no judicious practice without accurate diagnosis. He must have fine powers of observation, sharpened, intensified by reading and thought. Much that he sees in ordinary routine work lies so directly on the surface that a glance tells it all; but much also is so obscure that only the minutest investigation can reach the truth. The prominent symptom to the casual observer may convey a false impression and be a really unimportant factor in the diagnosis. He must know how to *weigh* the symptoms, putting aside the worthless surface-sign, and looking further and deeper for the essential trouble. He must know the pulse-beat, not only in its frequency, but in its force, its fullness, its hardness, and its softness; its regularity, its irritability. He must know the temperature not only by the touch but by the thermometer—the lung-action in the sounds revealed and the frequency of respiration. He must know the nerve-force, the secretions, the position in bed, the tone of the voice, the hunger and thirst, and for what; the hope, the fear, the doubt.

His treatment must depend in large measure upon his prognosis; for the probable result of a given case comes up so instinctively that the mind runs to some conclusion before treatment is entered upon. It is natural that it should do so; and it is just as natural that this conclusion as to result should determine the treatment; for if the prognosis is favorable, he does but little; if unfavorable, all his energies are sum-

moned and all the resources of his art are called up and put on duty. The prognosis then—this foreseeing of events—is the measure of the doctor's interference. And here begins his trouble and the meddlesome interference of friends, who imagine that a knowledge of medicine may be picked up in a night's nursing, and they are armed for a life-practice to-morrow morning. Very recently a professional friend had in his hands a case which taxed all his resources of learning and experience—a case where life hung by a thread. His diagnosis was clear; but in his eagerness to do right he asked for counsel. His judgment was indorsed, and his treatment approved. Thoughtfully, carefully, constantly he watched. Personal regard intensified his professional interest and sharpened all his powers. In the midst of this exercise of his fine attainments a friendly neighbor called him aside, and handing him a folded powder coolly asked him to "try that; it cured Brown's child, and I am sure it will cure this." "What is it?" asked the doctor. "I don't know; it came from Smith's drug-store, and he's a good druggist." The doctor was brave, and courteous as brave. "Madam," said he, "do you know what's the matter with this child?" "No, sir; not exactly." "Do you know what was the matter with Brown's child?" "No, sir; not exactly; both sick though." "Do you know that the doctor who treated Brown's child would prescribe the same powder for this?" "I suppose he would. It cured one, and I know it's good for the other." Now what a pitiable exhibition this of neighborly ignorance and friendly intermeddling. Not willing to take responsibility herself, she coolly asks the doctor to draw straws between strychnine and morphine, and then expects to be treated with consideration—consideration for ignorance and arrogance and unwarranted claim of experience.

When Henry More asked Southey, "Why can not I write the life of Wesley?" Southey answered, "Thou hast nothing to draw with, and the well is deep." A few simple questions will generally bring out the fact that our intermeddling friends have exactly the same knowledge of medicine that the good housewife had of indigo. "Put in a basin of clear water a piece the size of a marble, and if it is good, it will either sink or swim; I forget which." And we are asked to deal kindly, gently with this assumption! In the midst of your hazardous passage over the falls, rocks upon either side and stone pillars in front of you; in a night too dark for common vision, fit only for practiced

eyes; admitted by courtesy to the pilot-house; anxious indeed for safety to passengers and cargo; irrepressible in your anxiety, you touch the wheel on the wrong side, and as life and property go down in wreck your plea is you thought you knew. Poor imbecile! you had no right to think. Be gentle do you say? Yes; but be strong also.

> "There must be something stern and strong and sour
> Mixed with the clay that makes you fine;
> For while your gentleness itself is power,
> 'T is strength which makes that gentleness divine."

It is not, however, in his gravest cases that the doctor finds his greatest sick-room trouble. Lay-teachers of medicine are not so ready to shoulder responsibility in great emergencies. They are ready enough, aye, eager to wade in where they think the waters are not deep. They have crossed *that* stream before, and know exactly where the best footing is; but a serious rise in the stream startles out of them all their experience of the rocks and shoals, and they sit meekly on the shore playing the judicious know-nothing. It is in the *unimportant* cases where the heavy burden comes. Seeing the end from the beginning, the doctor is cool, and says, like the faithful watchman, all is well. But your lay-teacher knows better, and demands a fresh prescription morning, noon, and night. The placidity of the doctor's assurance that all is well is set down to want of interest, and he is denounced as a do-nothing by the very friend who a moment ago played the know-nothing. The pressure is put on heavier and heavier till the doctor is left to the alternative of offending the friends or doing violence to his convictions of professional duty. Now there 's the rub.

Do you ask, what shall I do? I answer, emergencies are not the rule in life, but they *come* in science as well as in morals, in professional as well as social life; and when they come I tell you, if you have convictions, abide by them, stand by them. If you feel that the granite is under you, move not; there is no sure footing for you off from that—only quagmire and shifting sands, and presently engulfment and a cry for help. Stand by your convictions and defend them; they are yours, and desertion of them is cowardly recreancy to your manhood and to your profession. There are matters upon which you are not expected to have opinions; they are matters which you have

not investigated, and opinion implies investigation. But in the matter of your life-work woe be to him who has no matured opinions. These stand by and defend when occasion comes. To you they are a priceless possession. Arrogantly intrude never; but in thy proper place *walk manfully*, and there stand, thou and thy convictions, *protecting* them, *interpenetrated* by them. They are your pillar of cloud by day and your pillar of fire by night. They are your life-banner. Be steadfast in its defense; *it* is glorified; *you* are ennobled. "Liberality, it is said, is a crown of grace in all men; but a craven concession and surrender of an honest principle to please one man or many is an abandonment of the very foundation of your manhood; and when that is gone pray for wings and go, for no spot of earth can ever again yield you a firm foothold." The earth has no use for you. Be firm.

In none of the lines of life toward the highest can man reach his utmost possibility unless the heart keeps equal pace with the head. The largest forces of the intellect are not enough alone; there must be added the largest development of the affections. An equipoise between the intellectual and the moral nature is essential to the unity of perfected manhood. Genius, fine culture, high social relationships are much; dignity and grace and talking powers are something; but the world demands a stricter account and *more* of its medical men than that; the *profession* demands more than that of him who asks to walk upon its high planes. The priesthood to which he dedicates his life requires *purity* as well as skill. You are admitted to too much of life in its purest and highest and most profound significance to justify a doubt as to who you are. You can not lay aside your doctorhood in your street-life. There is no nook or corner where you can hide your professional identity; there is no doorway so secluded that the street-gamins do not mark your entrance and your exit; there is no night so dark that the practiced eye of the watchman does not recognize the passer-by. The world demands and the profession demands that you justify the imperial trust reposed in you by virtue of your high calling. You may not lay aside your character as physician, with its high sanctities, and mingle in scenes of carousal and debauchery, and resume your place in the ranks to-morrow as if unstained; you may not at pleasure soil the "crown and mantle of your investiture," and afterward march side by side, the acknowledged equal of the untarnished soldier.

Nor are we willing that the man, the ambition of whose life runs to gold or to place, shall be held as our model. He must live, and in order to that he must eat, and by popular demand must be clothed in decent apparel. This comes as the legitimate reward for work done, for service rendered; but the man who starts in physic with the avowed determination to be rich and climb to the uppermost rounds of some public ladder is a sad spectacle from top to bottom. By the thousand arts known to trade these upper rounds he may reach, and there sit dangling his bags of gold and rejoice in what he calls success. The horde will give him adulation and censers will send up perfume for his especial breathing, but the two striking words on his epitaph will be *avarice* and *false ambition;* for it is forever true that where money and reputation come as the result of good deeds well performed they are a blessing to one, and may prove a benefaction to many; but where they are the things aimed at, sought after, struggled for, the heart shrivels and dries and hardens; the whole man is narrowed, and the high beneficence of his calling gives place to the mean thanks of the Pharisee that "I am not as other men are;" and these other men, modest and poor and full of human sympathy, say amen, and answer, "No, thank God, he is not as other men are."

This is not our model doctor. But we recognize him who harvests in the wisdom of the world, and dedicates it to God and his fellow-men; who looks away from his own aggrandizement to humanity and his Maker. He it is around whom gather the auroral lights, revealing how much of majesty belongs to perfected manhood. We recognize him who adds to knowledge virtue, to virtue temperance, to temperance truth, and whose virtue, temperance, and truth are all aglow with the spirit of Christianity. Regarding this as the crowning glory of humanity, we claim *him* as our highest type, whether in mansion or in cottage, and before him we swing censers of richest perfume. We recognize as our model him whose "interest is warmed by humanity and exalted into a principle; whose principle, invested with a moral motive, takes possession of the heart—a man whose mental powers, whose moral nature, and whose spiritual being are all blended in harmony in the daily business of his life, and with whom the same act is his own happiness, a benefaction to others, and a worship of God." This is our model doctor, and we bow before the dignity of his Christian manhood and give him honor, honor, honor.

MEDICAL LITERATURE OF KENTUCKY.

BY LUNSFORD P. YANDELL, M. D.

I have undertaken, in compliance with the instructions of the Medical Society of Kentucky, to write a history of the medical literature of the state, and have the honor to submit the following report as the result of my labors. The report embraces a period of seventy-five years, and refers to the productions of more than two hundred Kentucky physicians who have written on medicine. It is consequently long, and, if deemed by the Society worthy of publication, must extend through at least two volumes of its Transactions.

In preparing the report two plans occurred to my mind—one to present a continuous history of the various publications that have appeared in chronological order; the other to take up the several authors in the order of their appearance, and then, having introduced them, to follow each down to the present time, or to the close of his career. The latter has been adopted as having, upon the whole, most advantages; and this notably, among others, that in connection with every author named in the report will be seen at a single view a list of all his writings.

The history which I here present, besides notices of the Medical Literature of Kentucky, embraces some account of the origin of her Medical Schools, with biographical sketches of a number of her most distinguished medical men. In collecting the materials for it my chief reliance has been upon the medical journals of our country, and all these have been examined in which it was thought any thing was likely to be found from the pens of Kentucky physicians. The Transactions of our Society from the beginning and those of the American Medical Association have also been consulted. I have sought, in addition, to gather up all the introductory lectures delivered in our medical schools, and all the more ephemeral publications not contained in the journals

of medicine. The reports of our hospitals, lunatic asylums, and institutions for the blind and for deaf-mutes have also been referred to; the larger and more elaborate works on medicine have received due attention; and in addition to all I have had recourse to other than medical books for some facts that bear upon the history of Kentucky medicine. But with all my efforts to make the report complete I can hardly hope that many omissions will not be found in it which more time and greater care might have prevented; and still less reason have I to expect that my readers, however courteous, will concur in all the judgments expressed concerning our medical writers and their works. On the latter point I claim only to have formed these judgments candidly, and without any feeling, of which I am conscious, that would tempt me to do injustice to any one. Almost all that relates to the medical schools of Kentucky I have written from my own recollection, and venture to hope that my account of them will be found free from prejudice. Whatever were the controversies in which I bore a part while connected with those institutions, the time since has been sufficient to allay all the animosities that were enkindled by them.

On an impartial review of the labors of Kentucky physicians and surgeons, and a candid comparison of her medical literature with that of her sister states, I believe it will be admitted that a work has been performed by her medical profession of which she may well feel proud. Her great physicians and surgeons lose nothing by comparison with the statesmen, orators, and soldiers who have conferred luster upon her name. A near neighbor of the Sage of Ashland, his medical counselor and intimate friend, lived the most successful lithotomist of his times. With the Hero of Buena Vista grew up to manhood in the backwoods of Kentucky another surgeon, to whose boldness and skill the world is indebted for ovariotomy, an operation which has already added years to the average duration of life in women. The most original and elaborate treatise on medicine by an American physician is from the pen of a writer who was reared in Kentucky, and while engaged in its preparation was a teacher in one of her medical schools. One of the most comprehensive systems of surgery in our language was written by a former teacher in the same school. And the work on practice, which stands at the head of American medical books, is made up, in part, of materials collected by the author while a teacher of medicine in Kentucky.

Medical men appear to have been among the first adventurers to Kentucky, and to have taken a leading part in the earliest events in her history. Indeed her annals show that the first white man who set foot upon her soil was a physician. Dr. Thomas Walker, of Virginia, ventured into the mountains on her eastern border as early as 1745, according to some accounts, and certainly as early as 1750, several years in advance of Daniel Boone. He took an active part in framing the treaties by which the Indian tribes ceded their lands to Virginia. In the London edition of Washington's Journal, printed in 1754, there is a map marked "Walker's Settlement, 1750," on the Cumberland, showing that he had thus early become acquainted with the country. In 1780 he engaged with Col. Henderson in running the boundary-line between Virginia and North Carolina, or the territory which now forms Kentucky and Tennessee, as far west as the Mississippi, but was not successful in the undertaking.*

Some years later came another physician to Kentucky whose name is prominent in the early transactions of the state. This was Dr. John Connolly, of Pittsburgh, an intrepid, enterprising man, of decided talents, but with a mind more turned to military affairs and land speculations than to medicine. He is mentioned in the Journal of Washington, already referred to, as acquainted with the country on the Ohio in 1770. He had then conceived the project of forming a province to extend from the Ohio River to the Cumberland, and embracing a large portion of the state. In 1773 Captain Thomas Bullitt, as his agent, surveyed and patented the ground on which Louisville is built, and in April following advertised the land for sale. During the latter year he was dispatched by Lord Dunmore with a captain's commission to take possession of Pittsburgh and the adjacent country in the name of the king of England. He issued a proclamation accordingly, calling upon the male citizens to be embodied in the militia for defense against the Indians; but he was arrested for this procedure and thrown into prison by Arthur St. Clair, the representative of Pennsylvania. After a short confinement he was released on his promise to return to the custody of the law; but he broke his pledge, and instead of returning a prisoner made his appearance before many months at the head of a military force, re-asserting the right of Virginia to the government. A series of contests, outrages, and complaints

* Western Annals, page 111.

followed, which it would be out of place here to relate. Connolly seized upon Fort Pitt, arrested and imprisoned magistrates and private citizens, and practiced other acts of tyranny upon the people. He was further suspected of fostering the growing jealousies between the whites and the natives, in proof of which many instances of his cruelty and injustice to the Indians are related. On one occasion, when three friendly Shawanese had conducted safely some traders into Pittsburgh, he attempted to seize and detain them; but being foiled in his attempt by his uncle, Colonel Croghan, who had become alienated from him by his tyranny, he sent out some bad men under his command to waylay and murder them; and tradition relates that one of the Indians was slain.*

From the outset of the revolutionary movements Connolly was a tory; and with his fearless, adventurous temper, his capacity for martial affairs, and his knowledge of the country, he naturally became a leader in the military movements of the day. He planned, among others, a union in 1775 of the Northwestern Indians with the British troops in Canada,† which combined forces were to be led by him, and, having ravaged the frontier settlements, were to join the troops under Lord Dunmore in Virginia. To perfect his plans he visited General Gage in Boston, and after returning to Dunmore set out for the West bearing two sets of instructions; one on his person, the other carefully concealed in his saddle. As he traveled through Maryland his appearance excited suspicion, and he was seized near Hagerstown and sent back to Frederick, where the papers on his person were found and sent to Congress. General Washington, who was informed by one who was present when the genuine instructions were concealed, wrote to the proper authorities on the subject; but the papers, it appears, were never discovered. Connolly nevertheless was thrown into prison and kept in close confinement until 1781.

After the revolution he is said to have been a plotter of mischief in Kentucky, and ready for other adventures affecting the interests of the state. As a tory, he had forfeited his valuable tract of land at the Falls of the Ohio, which was afterward sold under an order from Virginia. Of his last appearance in the state the following very interesting account is given by Colonel Thomas Marshall in a letter to General Washington:

* Western Annals, page 129. † *Ibid.*, page 151.

"About this time (November, 1788) arrived from Canada the famous Doctor (now Colonel) Connolly. His ostensible business was to inquire after and repossess himself of some lands he formerly held at the Falls of the Ohio; but I believe his real business was to sound the disposition of the leading men of this district respecting this Spanish business. He knew that both Col. Muter and myself had given it all the opposition in convention we were able to do, and before he left the district paid us a visit, though neither of us had the honor of the least acquaintance with him.

"He was introduced by Colonel John Campbell, formerly a prisoner in Canada, who previously informed us of the proposition he was about to make. He presently entered upon his subject, urged the great importance the navigation of the Mississippi must be to the inhabitants of the western waters, showed the absolute necessity of our possessing it, and concluded with assurances that were we disposed to assert our right respecting that navigation Lord Dorchester was disposed to give us powerful assistance; that his lordship had (I think he said) four thousand British troops in Canada, besides two regiments at Detroit, and could furnish us with arms, ammunition, clothing, and money; that with this assistance we might possess ourselves of New Orleans, fortify the Balize at the mouth of the river, and keep possession in spite of the utmost efforts of Spain to the contrary. He made very confident professions of Lord Dorchester's wishes to cultivate the most friendly intercourse with the people of this country and of his own desire to become serviceable to us, and with so much seeming sincerity that had I not been acquainted with his character as a man of intrigue and artful address I should in all probability have given him my confidence."*

These earliest representatives of the medical profession in Kentucky left no written record behind them of their observations or experience. Walker maintained a fair reputation throughout his life, and was trusted by the government of Virginia in some important transactions. Connolly, with great abilities, seems to have wasted his days in ambitious but fruitless schemes. Having taken the unpopular side in the revolutionary war, he probably suffered much unjust obloquy; but it is impossible to doubt, from all the testimony recorded against him, that he was a bold, bad man, given to intrigue, and unscrupulous in the use of means to accomplish his purposes.

* Western Annals, page 315.

First Surgical Operation in Kentucky.

In the Annals of the West, to which I am indebted for the foregoing particulars respecting the lives of Walker and Connolly, is contained the history of a surgical operation, probably the first ever performed by a white man in Kentucky; and, though it was not written by a surgeon, I can not help thinking that it is worthy of a place in our medical literature. The case was reported by Colonel James Smith, the subject of the operation, in a journal of his explorations in 1767, and is as follows:

"About eight days after I left my company at the mouth of the Tennessee, on my journey eastward, I got a cane-stab in my foot, which occasioned my leg to swell, and I suffered much pain. I was now in a doleful situation; far from any of the human species, excepting black Jamie (his servant) and the savages, and I knew not when I might meet with them. My case appeared desperate, and I thought something must be done. All the surgical instruments I had was a knife, a moccasin-awl, and a pair of bullet-molds. With these I determined to draw the snag from my foot, if possible. I stuck the awl in the skin, and with the knife I cut the flesh away from around the cane, and then commanded the mulatto fellow to catch it with the bullet-molds and pull it out, which he did. When I saw it, it seemed to be a shocking thing to be in a person's foot. It will therefore be supposed that I was very glad to have it out. The black fellow attended upon me, and obeyed my directions faithfully. I ordered him to search for Indian medicine, and told him to get me a quantity of bark from the root of a lynn-tree, which I made him beat on a stone with a tomahawk, and boil it in a kettle, and with the ooze I bathed my foot and leg; what remained when I had finished bathing I boiled to a jelly and made poultices thereof. As I had no rags, I made use of the green moss that grows upon logs, and wrapped it round with elm-bark; by this means (simple as it may seem) the swelling and inflammation in a great measure abated. As stormy weather appeared, I ordered Jamie to make us a shelter, which he did by erecting forks and poles, and covering them over with cane-tops, like a fodder-house. It was about one hundred yards from a large buffalo-road. As we were almost out of provisions, I commanded Jamie to take my gun, and I went along as well as I could, concealed myself

near the road, and killed a buffalo. When this was done we jerked the lean and fried the tallow out of the fat meat, which we kept to stew with our jerk as we needed it.

"I continued in this place till I could walk slowly without crutches. As I now lay near a great buffalo-road, I was afraid that the Indians might be passing that way and discover my fire-place; therefore I moved off some distance, where I remained till I killed an elk. As my foot was yet sore, I concluded that I would stay here until it was healed, lest by traveling too soon it might again be inflamed.

"In a few weeks after I proceeded on, and in October arrived in Carolina. I had now been eleven months in the wilderness, and during this time I had seen neither bread, money, women, nor spirituous liquors, and three months of which I saw none of the human species except Jamie."

TRANSYLVANIA UNIVERSITY.

The medical literature of Kentucky dates back a few years beyond the beginning of the present century, at which time a movement was made toward the organization of the Medical Department of Transylvania University. A charter for this institution was granted by the General Assembly of Virginia in 1780, mainly through the exertions of Colonel John Todd, a delegate from the "county of Kentucky," who shortly afterward fell at the disastrous battle of the Blue Licks. It was chartered, as expressed in the preamble to the act, "to promote the diffusion of useful knowledge, even among its remote citizens, whose situation in a barbarous neighborhood and savage intercourse might otherwise render unfriendly to science." Eight thousand acres of escheated lands, the property of British subjects in Kentucky, were vested in trustees for the benefit of the school, and the teachers and pupils were to be exempt from military duty.

In 1783 the institution was incorporated under the name of "Transylvania Seminary," when it was endowed with twelve thousand additional acres of land. But an act of the legislature, passed after Kentucky became a state, exempting lands from escheat, deprived the seminary of the principal part of this endowment.*

In 1785 Transylvania Seminary was opened in the house of Rev. David Rice, one of the most noted of the pioneer ministers of the

*Ranck's History of Lexington, page 40.

Presbyterian Church in Kentucky, who lived near Danville, and was the first teacher, and for some years the only one, in the school. It was removed to Lexington in 1788, having previously received a valuable donation in the shape of books from Rev. John Todd, uncle of the gallant Colonel Todd, and the first professor of sacred literature in the seminary. Among those who took a deep interest in the school is mentioned the name of John Filson, a man of unusual attainments, to whom Daniel Boone dictated a memoir of his life. He was from one of the New England States, and greatly in favor of bringing teachers to Kentucky from the North. Some offense was given by his zeal in that direction, and a writer in the Kentucky Gazette was provoked to ask him, somewhat sarcastically, "What peculiar charms had northern teachers to inspire virtue and suppress vice that southern teachers do not possess?"

But other and more serious jealousies were about to mar the prospects of the infant seminary. On its removal to Lexington a second teacher was appointed, and in 1794 a Baptist minister, "with inclinations to the Priestley school of theology,"* was elected principal. Sectarian prejudices were aroused by the appointment. The Baptists claimed that they had equal rights in the school, on the ground that it was founded by the state. The Presbyterians, on the other hand, insisted that the right of control belonged to them, because through their exertions it was that the institution was endowed. A split ensued between its supporters, and the Presbyterians, in 1796, proceeded to establish a school at Pisgah, a few miles distant from Lexington.† But fortunately these dissensions did not continue long, and in 1798 the two schools were merged in one, under the name of "Transylvania University," to be seated at Lexington. Its first president was Rev. James Moore, of the Episcopal Church, and Rev. Robert Stuart and Rev. James Blythe, Presbyterian clergymen, were associated with him as professors.

In 1799 steps were taken to give the institution the semblance of a university by creating law and medical departments. Dr. Samuel Brown and Dr. Frederick Ridgely, prominent physicians of Lexington, were elected about the same time to professorships, and Dr. Ridgely at once entered upon his duties, delivering a course of lectures to a small class on the practice of physic.

* Ranck's History of Lexington, page 42. † *Ibid.*

In 1804 Dr. Blythe, who subsequently became professor of chemistry in the medical department, was elected president of the university. Dr. Ridgely, after a single winter, resigned his chair, and Dr. James Fishback was appointed professor of the theory and practice of medicine. Nothing, however, appears to have resulted from the appointment. No instruction was given by the newly-elected professor, and the following year he resigned his professorship.

Again, in 1809, a systematic and more formal effort was made to get the medical department into operation, and several professors were appointed. Dr. B. W. Dudley was chosen professor of anatomy, Dr. Elisha Warfield professor of obstetrics, and Dr. Joseph Buchanan professor of the institutes of medicine. But the result was the same as before; for, although Dr. Buchanan went to work at once preparing a course of lectures, the organization was dissolved before any lectures were delivered, and no further attempt at establishing a medical school seems to have been made for several years.

In 1815 the project was renewed, when the name of Dr. William H. Richardson appeared in the list of professors; but the success of the measure was no greater than before. Finally in 1817 a faculty of signal ability was organized, including the names of Dudley, Drake, Richardson, Overton, and Blythe. Dr. Coleman Rogers was adjunct to the professor of anatomy. A full course of lectures was at last delivered by each professor. The class numbered twenty, one of whom, Dr. John Lawson McCullough, was admitted to the degree of doctor of medicine at the close of the session. The school at last had the promise of prosperity. The beginning was auspicious. The professors proved themselves teachers capable of attracting and interesting students, but they were not harmonious. Feuds grew up among them during the winter, and at the termination of the first session the faculty was dissolved, Drake returning to Cincinnati, and Overton, not a little disgusted with medical schools, removing to Nashville.

After so many abortive attempts to establish a medical department the friends of the measure were discouraged, and a year passed away without a renewal of the effort. Meanwhile a new impetus had been given to the academical department of the university by the election of the Rev. Horace Holley, LL. D., as president. The institution in the hands of this gifted man at once shook off the lethargy that had oppressed it, and acquired new life. Dr. Holley possessed all the

qualities of mind and manner that strike most forcibly on first appearance—he was quick, ready, brilliant, of the most pleasing address, uncommonly handsome, and as a speaker fluent, polished and imposing. He saw the importance of the department which had just fallen through, and began soon after his induction into office to devise measures for its reorganization. In the summer of 1819 a medical faculty was formed, embracing Dr. Charles Caldwell in the chair of the institutes of medicine, and Dr. Samuel Brown in that of theory and practice, with Dr. Dudley, Dr. Richardson, and Dr. Blythe in their former professorships.

This was the organization under which the medical department of Transylvania University commenced its brilliant career. For more than twenty-five years its prosperity was uninterrupted. From the fall of 1819 to the spring of 1837 it went on, the foremost school in the valley of the Mississippi, almost without a check or a jar. Its first class numbered thirty-seven students, and the number was nearly doubled the second year; by the fifth it had swelled to two hundred, and by the seventh to two hundred and eighty. Lexington and Kentucky had made liberal appropriations to it, and it was already in possession of a superior medical library, with the nucleus of an anatomical museum and the necessary chemical apparatus. In 1823 Dr. Drake was again elected to the chair of materia medica, which he had relinquished in 1818. I was in Lexington, a student attending my first course of lectures, when he returned to the school, and I saw him take the oath of office, and heard him deliver the Latin address required at that day of professors by the university at their inauguration. I am aware that large deductions must be made for first impressions on an enthusiastic, youthful mind; that much of the admiration created by new men and strange scenes is to be set down to the charm of novelty; but my conviction is still firm, after the lapse of these fifty years, that I have not since seen a more splendid combination of talent than adorned Transylvania University at that day.

In 1837 an attempt was made to transfer the medical department to Louisville, where it would command facilities for the study of anatomy and clinical medicine not afforded by Lexington; but after the measure had been concurred in by the professors some members receded from the agreement, and the result was the disruption of the faculty as well as of friendships that had existed for nearly twenty

years. The places of those members who decided to pursue the scheme of founding a school in Louisville, however, were promptly filled, and the friends of the institution believed that it was stronger than ever. Eberle, Cross, and Mitchell were called to the chairs vacated by Cooke, Caldwell, and the writer of this report. The citizens of Lexington erected a new and more commodious edifice for its use, and a liberal appropriation was made for the increase of its library, museum, and chemical apparatus. Its classes for a time increased, and remained large for several years; but at last it became evident to the professors that the school could not be sustained; and just before the war of the rebellion it was closed. The causes which determined the professors to remove it to Louisville had brought about the inevitable result.

The good accomplished by the Transylvania Medical School was immense. It infused a higher scientific tone into the whole professional mind of the West. It brought a sound medical education within easy reach of multitudes of young men who without it must have been content to practice physic without the advantages of medical lectures. Its influence in raising the standard of the profession in all the western states was soon manifest. While in operation more than two thousand of its students were admitted to the degree of doctor of medicine.

Dr. Frederick Ridgely.

The first public course of lectures on medicine in Kentucky was delivered in Transylvania University, as has been remarked, by Dr. Frederick Ridgely, who subsequently claimed some of the most eminent physicians of the state as his students. Dr. Ridgely was descended of parents of the first respectability, and was born May 25, 1757, on Elk Ridge, Ann Arundel County, Maryland. Having pursued the usual course of collegiate studies at the Academy of Newark, Delaware—at that time the most noted school in that part of the country—he entered upon the study of medicine with Dr. Philip Thomas, of Fredericktown, in the seventeenth year of his age. At the breaking out of the revolutionary war he was appointed surgeon to a corps of riflemen when only nineteen years old, and with his command marched to the North, arriving at Boston only a few days after the battle of Bunker Hill. During the investment of Boston

which followed he discharged the duties of hospital physician, rendered peculiarly arduous by the unusual amount of sickness and mortality that prevailed among the troops; and he was with the army of Washington through the trying year of 1776. In 1777 his native state conferred upon him an additional mark of her regard by appointing him surgeon to the Fourth Maryland Regiment of Regulars, in which capacity he was serving at the descent on Staten Island, and at the battles of White Marsh, Brandywine, and Germantown. Philadelphia having been evacuated by the British in 1778, he saw an opportunity of improving his medical knowledge by the lectures in the Philadelphia College about to commence, and accordingly resigned his commission in the army with that view. Dr. Rush was then in the chair of chemistry, and his colleagues were Kuhn and Shippen. Dr. Rush, as physician-general of hospitals, had seen much of his pupil in the service, and had conceived a most favorable opinion of his abilities, which was confirmed by the intercourse of the winter. The friendship formed between them at this period was maintained by a correspondence which was kept up between them to the close of Dr. Rush's life.

But Ridgely was not permitted to remain long enough in Philadelphia to obtain, as he had hoped to do, his degree of M. D. Early in the spring of 1779 he was appointed surgeon to a vessel about to sail with letters of marque and reprisal from that port. The ship made a short cruise off the coast of Virginia, when, falling in with an enemy of superior size, she was chased into the Chesapeake and after a severe engagement captured. As his vessel struck her colors to the enemy Ridgely leaped overboard and narrowly escaped being made prisoner by swimming two miles to shore. As soon as he had opportunity he again sought a place in the service, and was continued an officer in the medical department to the close of the war.

On the restoration of peace he resigned his commission in the army and entered upon private practice in his native county, between Annapolis and Baltimore, where his reputation acquired in the field soon gave him an extensive business. But he thought he saw an ampler field for usefulness in the wilderness opening up in Kentucky, and after a very short sojourn among his old friends joined the tide of emigration to the West, and in 1790 settled in Lexington. Here his large experience in military hospitals, coupled with that dignity,

ease, and gentleness of deportment which at once conciliated the stranger, soon placed him in the front of his profession. In manners and appearance he was said to bear a striking resemblance to his friend Dr. Rush, whom he also emulated in his devotion to scientific medicine as well as to the cause of his country, which not long after he arrived at Lexington again demanded his services. He attended one or two military expeditions against the Indians, in the capacity of surgeon, after coming to Kentucky, and in 1794 was made surgeon-general to the army of General Wayne. The decisive campaign of that year having secured the safety of the border settlements for a time, Dr. Ridgely took a final leave of military life, and resumed the practice of medicine and surgery in Lexington. His fame as a practitioner rose to a height that brought patients to him from the most distant settlements in the state.

Nor was the whole of his time devoted to the practice of his profession. His fine scholarship and large experience fitted him well for the office of an instructor, and he in a little while drew around him a number of students, to whom he delighted in imparting his stores of practical knowledge. He introduced them to the bedside of the sick, "where they were urged to watch the progress of disease, to learn its cause, to note its symptoms, and where they learned to administer the medicines prescribed for its removal and mark its termination; so that his pupils became instructed in the art of healing from the great source of all correct knowledge, the book of nature."*

Dr. Ridgely having been the first professor in Transylvania University to deliver a course of lectures on medicine, to him belongs the honor of having introduced public medical teaching in Western America. In the capacity of trustee he rendered the most valuable services to that institution for many years, being one of the most active of the advocates of a medical department, which at last owed its organization largely to his enlightened influence. After a single course of lectures, however, he resigned his professorship, nor did he again desire a chair in the school. The loss of his wife in 1822, following upon infirmities which age had begun to induce, determined him to relinquish the labors of his profession, and he died at the house of his daughter, in Dayton, Ohio, on the 21st of November, in the sixty-eighth year of his age.

*Short. Trans. Jour. Med., vol. 1, p. 445.

In person (says Dr. Short in a biographical sketch to which I am indebted for the foregoing facts in relation to the life of Dr. Ridgely) the subject of this notice "was rather below the ordinary stature, but most symmetrically proportioned. His motions in walking were particularly graceful, and even in advanced life he moved with a step firm and elastic." The suavity of manner by which he was characterized expressed the kindliness of disposition which rendered him always a most welcome visitor at the bed of sickness and at the house of sorrow.

Dr. Ridgely was not an author, nor have I been able to find any thing from his pen; but the fact that he gave the first public course of medical lectures ever delivered in Kentucky gives him a title to a place in a history of her medical literature.

Dr. Samuel Brown.

About the time that Dr. Brown was made a professor in Transylvania University, in conjunction with Dr. Ridgely, he became a writer for the medical press. The first medical paper from the pen of a Kentucky physician that I have been able to trace is one written by him for the American Medical Repository, at that time, I believe, the only journal of medicine published in the United States. It bears date June, 1799, and is contained in the fourth volume of that journal. In the same volume is the report of a case by Dr. Brown, dated November, 1800, together with a second report of a later date, and these are followed in subsequent numbers by other medical histories, which, as possessing an inherent interest, as well as being matters of curiosity at this day, I shall notice somewhat in detail.

His first paper was entitled "A Curious Instance of Disease, in which the feeling of the patient was abolished, while the power of motion remained unimpaired." The subject of the affection was a lady of Bardstown, aged about forty years, and when Dr. Brown saw her she had been deprived for more than two years of sensation in her hands and feet. She was quite insensible to the effects of cutting instruments or of having coals of fire applied to them. "In one instance," Dr. B. remarks, "when she was engaged in shaping a piece of wood with a knife, she incautiously turned her eyes on some other object, and cut off the end of the thumb of her left hand without perceiving the smallest sense of pain. She can not," continues Dr. B., "from her sensations discover the least difference between a hot and a cold

iron, and has frequently burnt the skin and flesh to a considerable depth by mistaking the one for the other. These wounds and burns heal without any uncommon difficulty. Notwithstanding this total loss of sensibility, she retains the power of motion in full perfection, and pursues her domestic employments without any remarkable inconvenience. All her animal and vital functions are in a natural, healthful state, and her spirits are regular—nay, even cheerful. She feels no uneasiness from her complaint except a sense of fullness in the veins. As the sense of touch is entirely lost, she finds it difficult to retain substances in her hands, and on turning her eyes aside often drops glasses, plates, etc., which she holds in safety as long as she looks at them."

In concluding his report Dr. Brown remarks, "The doctrine of the nervous system is yet so much embarrassed with controverted facts and visionary theories that I shall not attempt an explanation of the phenomena of the above case. It is only by carefully noting and recording facts that we can hope to arrive at truth in our physiological investigations." He lived to see much of the obscurity which rested upon the nervous system cleared up, and light and order substituted for visionary theories.

In the same volume of the Repository we have the report of a case dated November 10, 1800. It is entitled "Extraordinary case of a man who appeared to have *three testicles*." The subject was a married man, thirty-seven years of age, the father of several children, and in excellent health. About two months before applying to Dr. Brown he perceived a slight uneasiness in the ring of the abdominal muscle on the right side, and felt a small tumor, which was easily pushed back into the abdomen. It was suspended by a distinct cord, which "in size and feeling exactly resembled those of the other two testicles." Dr. Brown felt distinctly the action of the cremaster muscle as often as he directed the patient to retract the testicles, and was fully convinced, as were also Dr. E. Warfield and Dr. Lewis Marshall, who examined the case at his request, that it was a veritable third testicle.

This volume of the Repository contains the history of another remarkable case by Dr. Brown. A young lady, aged about nineteen years, punctured her foot with a nail, which gave rise to the most acute pain in the limb, extending to the knee, the hip, and the back. Tetanic rigidity followed. "A physician was sent for who unluckily

was at a horse-race, and declined to visit her. He, however, sent a few anodyne pills, which she took, but without any material advantage." The accident occurred on Sunday, the 28th of October, and Dr. Brown saw her the Wednesday following. He found the patient in extreme agony, with spasms in her back and neck, and acute pains in her ankle, knee, and hip-joint. Not the slightest appearance of inflammation could be discerned in the puncture; but the heel was cold, the skin pale, and nothing but blood and serum could be pressed from the wound. He introduced a probe, and was surprised to find that she was scarely sensible of pain from a very harsh examination of the extent and direction of the puncture. At length the point of his probe came in contact with a part which possessed extreme sensibility. He made an incision with a scalpel across the heel quite down to the bone, on which the whole of the complaint seemed to be removed, and he flattered himself that he should be able to prevent a recurrence of the spasms. He washed the wound with spirits of turpentine; and having made a dossil of lint, covered it with powdered sulphate of copper and spirits of turpentine, and pressed it down to the bottom of the incision. This application gave severe pain. A large dose of laudanum was administered and repeated every four hours. A blister was also applied to the ankle and a warm poultice to the heel. Two grains of calomel were ordered every hour when the patient was awake, and an ounce of mercurial ointment was rubbed upon the legs, arms, and back; and Dr. Brown adds that he endeavored to hasten salivation by rubbing calomel on her gums. She slept about two hours, and continued tolerably easy until the next day, when her spasms returned and all the symptoms were greatly aggravated. Wine and bark, which had proved so efficacious in the hands of Dr. Rush, were tried; but the stomach immediately rejected them. Two ounces of mercurial ointment had now been rubbed in, twenty-two grains of calomel had been taken in the form of pills, and a scruple rubbed on the gums, when Dr. Brown, despairing of being able to excite ptyalism in time to prevent a fatal termination of the disease, directed fifteen drops of the tincture of cantharides every hour until the symptoms of inflammation in the bowels should forbid its further exhibition. Hot poultices were continued to the wound, which were filled with the root of the phytolacca decandra. I conclude the history of the case in the words of the author:

"After the patient had taken a drachm and a half of the tincture of cantharides she was seized with a sensation of heat and burning in the stomach, which, becoming more and more severe, extended through the whole course of the alimentary canal, and produced a number of stools, mixed with blood and mucus. The inflammation of the stomach occasioned vomiting, and the acute pains in her bowels resembled those which are felt in the most violent attacks of dysentery. *Immediately on the occurrence of these symptoms all the tetanic affections disappeared, and never returned.* In order to mitigate the disease which I had produced in the alimentary canal I gave large quantities of mucilaginous drinks and anodyne enemata, which afforded considerable ease. Fortunately, however, the day after this inflammatory state of the bowels came on the mercury, which before seemed quite inert, began to show its effect on the salivary glands, and (as we have often seen in dysentery) removed the disease of the intestines. Some slight affection of the kidneys appeared, with bloody urine, but soon left the patient without any complaint, except a very moderate salivation, which continued for about two weeks. The wound began to form pus eight days after the accident, and was kept open several weeks, from an apprehension that if closed the spasms might return."

The fifth volume of the same work contains the details of an interesting case of *poisoning* in a child by the seeds of the *Datura stramonium*, communicated by Dr. Brown in a letter to Dr. Mitchill, one of the editors of the Repository.

In volume 2 of the same work Dr. Brown gives an account of "*Two cases of convulsions, alternating with insanity, relieved by violent pressure over the stomach.*" The cases were extraordinary. In the first, a man about twenty-five years of age was seized with convulsions while excited in an argument with a friend. The convulsive movements were succeeded by insanity, which after a few moments gave way to convulsions again. Before Dr. Brown despaired of the efficacy of antispasmodics he had given his patient two ounces of laudanum without producing any sensible effect. Recollecting then that he had seen cases of hysteria relieved by a bandage tied tightly round the body, he attempted to apply one in this case, and in doing so pressed with some force against the stomach. He perceived an immediate change in the countenance of the patient, and on increasing the

pressure the young man smiled, and expressed himself relieved. On withdrawing his hand all the symptoms recurred, and were again relieved by the pressure.

The second patient was a lady about twenty years of age, who had been subject from her infancy to convulsions of a hysterical character, in one of which Dr. Brown found her. He says, "I immediately pressed my knuckles with great force into the pit of the stomach, and in less than five minutes she was free from convulsions and her mind composed. I withdrew my hand and the complaint returned, as in the other case. I left a person with her to continue the pressure, and found her well the next day.

Dr. Brown's communications to the Medical Repository were occasional and brief, consisting of familiar letters addressed to one of the editors. Besides the articles noticed he wrote for Bruce's Journal (vol. 1) a short account of the Niter Caverns of Kentucky, and the sixth volume of the Transactions of the American Philosophical Society contains a paper from him on the same subject. In 1818, in a letter to Professor Silliman, he described "a curious substance which accompanies the native niter of Kentucky and Africa," which was published in the first volume of the American Journal of Science and Art. He was an industrious writer, but composed no elaborate papers. His correspondence was extensive, and his letters to Dr. Rush, Mr. Jefferson, and other scientific men at home and abroad would be read with more interest doubtless than his medical papers, if published; but all those, it is to be feared, are now beyond the reach of the biographer. Soon after returning home from Scotland he wrote to a friend in Edinburgh, asking him to use his influence with mechanics of skill to induce them to migrate to America, for the purpose of taking part in the erection of the public buildings about to be commenced in the city of Washington. The following extract from the letter written in reply will be read with interest. It is dated Edinburgh, June 7, 1795, not long after Dr. Brown left the medical school there, and alludes to some of his fellow-students from America:

"My government, anxious for the welfare of its people, has prohibited any artificer from leaving this happy island to settle in America, and there is therefore little probability of my being able to send you any masons or carpenters. . . . As I wrote you so

lately, I have no news to send you, except that Adams, Brockenbrough, and Proudfit have passed their examinations before the professors, and are to take their degree on the 24th of this month. No fewer than twenty-six are to be commissioned at that time to dispatch inhabitants to Pluto's regions *secundem artem.*"

Dr. Samuel Brown, the first professor of medicine in Transylvania University, and the father of Kentucky medical literature, was born January 30, 1769, in the county of Augusta, now Rockbridge, Virginia. His father, the Rev. John Brown, was a learned Presbyterian minister, who devoted a portion of his time to the education of young men. He had charge of a classical school in his neighborhood, where the ancient languages were carefully taught in connection with the branches of science embraced in a liberal education. The mother of Dr. Brown was Margaret, daughter of John Preston, of Virginia, from whom so many of the distinguished men of the southern states trace their lineage. Her sons, John, James, and Preston, as well as the subject of the present memoir, all rose to distinction. One of her daughters married Dr. Humphreys, a noted physician of Staunton, Virginia, and another married Dr. Craighead, long known as an able and eminent Presbyterian clergyman in the neighborhood of Nashville.

It was under the eye of his judicious father that Dr. Brown acquired the rudiments of his fine classical education. On reaching the age of sixteen he was transferred to the family of the Rev. James Waddel, the blind preacher, rendered famous by the description of William Wirt in the British Spy. Here he remained eighteen months, and was then removed to Dickinson College, Pennsylvania, which he entered as a junior, and at the expiration of his senior year graduated with distinguished honor as a Bachelor of Arts.*

On completing his collegiate course he entered upon the study of medicine with his brother-in-law, Dr. Humphreys, at Staunton, Virginia, and after a few months proceeded to Philadelphia, where he became a private pupil of Dr. Rush, with whom, while under his care, he formed the most pleasant social relations. Without remaining in the medical school at Philadelphia to take his degree, he repaired to the University of Edinburgh, where his illustrious preceptor had graduated a few years before, and where the opportunities for acquiring a thorough

* La Roche. Amer. Med. Biog.

medical education were deemed at that time the best in all the world. Edinburgh was at that day what Leyden had been half a century before, and what Paris became half a century afterward, to the medical profession. Brown was intent on making the best possible use of his opportunities, and applied himself assiduously to the acquisition of knowledge from every quarter. He was never a contracted student; but with a mind alive to every human interest, he sought to store it with every variety of learning. No doubt many students of medicine came home from Europe better instructed than he was in the details of his profession, but no one, it is believed, ever returned with a larger fund of general information. His tastes were scholarly and elegant, and he found in the "modern Athens," as Edinburgh was then styled, ample scope for their gratification.

He was not able to graduate at Edinburgh, from having failed to fulfill certain of the requisitions of that celebrated school; but obtained the degree of M. D. from the University of Aberdeen.* With a number of others, fellow-students who accompanied him from America, were Hosack, Davidge, Ephraim McDowell, and also Brockenbrough, of Virginia, referred to in the letter just quoted. Dr. Brown was in the habit of relating to his classes in Transylvania that three of the number—Davidge, Hosack, and himself—resolved that on returning home they would become founders of medical schools in their country. "The idea," he said, "seemed to the students of the old country not a little ludicrous, and the young Americans became the butts of a good deal of ridicule on account of it; but we were not to be laughed out of our projects," he added, "however visionary they appeared. And now, gentlemen," he continued, "you behold the result: Hosack has been a long time a professor in the College of Physicians and Surgeons at New York; Davidge went to work, almost as as soon he reached home, laying the foundation of the University of Maryland, which has grown into a great school. I was appointed a professor in this university a little while after I came to the backwoods of Kentucky, many years ago, before either of my fellow-students had become teachers. The scepter placed in my hands, it is true, turned out to be a barren one; the country was not yet ripe for a medical school. But after long years and many failures a successful organization was effected, and my fondly-cherished

* La Roche. Amer. Med. Biog.

vision was at last realized, and I am here to-day before a class of two hundred students."

On his return home he settled first in the neighborhood of the newly-projected city of Washington. With his natural advantages of person and manner, aided by a medical education so thorough, he was not long securing an extensive and lucrative practice; but after a year or two he relinquished his flattering prospects on the Potomac and followed his brothers to Kentucky. He settled in Lexington in 1797, and when the first trial of a medical department was made in Transylvania University, two years later, he was chosen professor of the theory and practice of medicine and chemistry. Dr. Brown had for rivals in the practice of his profession in Lexington Dr. Ridgely, Dr. Fishback, and Dr. Pindell, all physicians of superior minds and acquirements, and of the most popular address; but it does them no injustice to say that in public estimation he took precedence of them all. To a knowledge of medicine not inferior to theirs, he added a more enlarged culture and more varied attainments acquired by travel in Europe, and he had besides a readiness with his pen which soon gave him a wider reputation. When the choice fell upon him in 1799 as medical professor in the infant university there can be no doubt that he was the most prominent physician west of the mountains.

It is related in Ranck's History of Lexington, on the authority of Michaux, that Dr. Brown was the first American physician to practice vaccination. It is stated that he introduced it into Lexington several years before the first experiments with it had been made in New York or Philadelphia, and that up to 1802 he had vaccinated upward of five hundred persons in Kentucky.

In 1806 his brother, James Brown, finding it necessary to seek a milder climate on account of his health, removed to New Orleans, and Dr. Brown, impelled by the same feelings of devotion to his brother which brought him to Kentucky, gave up his flattering prospects in Lexington and settled in the same city. As before in Virginia and in Kentucky, his success in New Orleans was almost immediate. His reputation had preceded him, and in a short time he acquired a lucrative business. Having occasion two years subsequently to make an excursion to Natchez, he met near that city Miss Catherine Percy, to whom he was married the following year. This event was followed

by another change of residence. In New Orleans his success had been so flattering that he was naturally reluctant to give up a third time the chance of acquiring renown as well as wealth from his profession; but the wishes of his wife to remain near her relatives finally prevailed with him, and he settled down on a plantation in the neighborhood of Natchez. The practice of physic was now given up, except occasional calls to his sick friends and gratuitous attentions to the neighboring poor. In the society of his intelligent and lovely wife, with wealth and surrounded by influential family connections, here it seemed that he was likely to remain. But in a few years his prospects were again altered. His accomplished young wife died, leaving him with three little children. The youngest of these soon followed its mother to the grave. His residence was made insupportable by these successive afflictions; and, removing with his negroes to the territory of Alabama, he settled on a plantation near Huntsville, in the neighborhood of his brother-in-law and cherished friend, Colonel Thomas Percy.

His biographer and friend, Dr. La Roche, says that he "now devoted himself almost exclusively to the education of his children, and for several years was scarcely a day separated from them." But this, added to the cares of his plantation, did not prove to be sufficient occupation for his active mind, and very naturally, when his daughter, the elder of his children, had reached an age at which he thought she might properly be sent from home to be educated, it turned again to his profession. He reverted with zeal to the project, which amid all his other cares he had never wholly abandoned, of founding a medical school in the valley of the Mississippi.* His large professional acquaintance eminently qualified him for determining the site as well as for selecting the men for such a school. Moreover, his own qualifications for taking part in it were of a very high order. His experience, his travels, his observation of disease in various countries, added to his pleasant elocution, rendered him a captivating teacher. Among the physicians west of the mountains who had struck him as possessing the qualities of mind and temper to take the lead in building up a school of medicine was Dr. Daniel Drake, whose rare abilities had been exhibited during his connection with Transylvania University in 1817. And with Dr. Drake it was his first purpose to co-operate in

* La Roche. Am. Med. Biog.

organizing a school.* A charter for the Ohio Medical College, embracing Dr. Brown's name as one of the professors, had been drawn up by Dr. Drake, and was before the legislature of Ohio early in 1819. But Dr. Brown was not so highly gifted as his friend in the prophetic faculty. He failed to foresee, as Dr. Drake was convinced he did, that Cincinnati was destined to be the seat of the great medical school of the West. Lexington to his mind, on the contrary, appeared to possess superior advantages for such an institution. Lexington was at that day a city of greater note than Cincinnati. It was the center of a highly refined, wealthy, and cultivated population, and the seat of a university which was rising rapidly into notice. Besides all these considerations, he had twenty years before held a professorship in that university, and had many old friends and associates still living in Lexington. When therefore his former chair was tendered to him, on the reorganization of its medical department, while as yet doubtful whether Dr. Drake would succeed with his school, or even in his attempt to obtain a charter for it from the legislature, he decided to accept it.

On the first Wednesday in November, in regular course, he delivered his first introductory lecture in Transylvania University, and entered actively upon his duties as professor of the theory and practice of medicine. Of the rapid growth of the school the history has already been given. In its first years it attracted students from the old states east of the mountains, and before it had been six years in operation was in respect to numbers the second medical school in the United States.

The outward circumstances by which Dr. Brown was now surrounded appeared in every way suited to fix him in his purposes. Greater success in the main professional scheme of his life he could hardly have desired. He was the idol of the social circle in which he moved. As a teacher he stood high, and could see that he was exerting a good influence on his profession; but none of these, nor all combined, could avail to keep him in the new sphere to which he was so well suited. The secret of this was more a want of harmony in the faculty than his characteristic love of change. His social relations with some of his colleagues were far from agreeable. Some recollection of the feuds which distracted the school in 1817 probably remained with a portion of the faculty. The practice of teaching

* La Roche. Op. cit.

private classes prevailed in the school. Dudley, Caldwell, Drake, and Richardson each had a large number of private pupils, and the rivalry thus engendered intensified the old jealousies among the professors. In the winter of 1824–5 an unfortunate personal difficulty occurred in Frankfort between a brother of Dr. Dudley and Dr. Preston Brown. This affair still further estranged Dr. Brown from his influential colleague and rendered his situation in the school less pleasant. In the spring of 1825 he resigned.

Dr. La Roche says that he tendered his resignation "in favor of his friend, Dr. Drake, after remaining in the school until it had acquired sufficient celebrity to insure its stability and success." No doubt he was gratified to surrender his chair to so worthy a successor, and gratified too to leave the school in so prosperous a condition. Other considerations also doubtless influenced him in his determination to retire from it; but it was the unpleasant state of feeling in the faculty, as I have been assured by Dr. Drake, more than any thing else, that decided him to take the step. His happiness consisted largely in the indulgence of the social affections. He was eminently a philanthropist. It was necessary to his peace of mind that he should be at peace with all the world. Not only was he a warm friend, but I think no one who was ever brought into close relation to him could fail to remark how ready he was to apply all his intellectual resources to promoting the good of others, rather than to the advancement of his own interests. I can never forget the enthusiasm with which, when I was his student, he spoke to me of the recto-vesical operation of Sanson and Vacca Bellingiri, and afterward of lithotrity, when it had been successfully executed by Civiale, as a substitute for lithotomy, which he seemed to regard with all the horror felt for that operation by the father of medicine, who bound his pupils in the well-known Hippocratic oath not to perform it. When the effort was made, toward the close of the last century, to elect a convention in the state favorable to the gradual emancipation of slavery, he united his efforts with those of Mr. Clay, and of his brothers, James and John Brown, to secure that beneficent measure. In his profession his efforts tended always to advance its usefulness and dignity and to elevate its tone. By his example and in all his addresses to his students he labored to promote harmony in its ranks; and the crowning effort of his life was to organize a society whose members should pledge themselves to strive in every way to promote that object.

This society was styled "*The Kappa Lambda Association of Hippocrates*," and was instituted at Lexington. The Coan Sage was selected as the patron of the body, and as a model eminently worthy of imitation. A promise in terms similar to the Hippocratic oath was exacted of each member on his admission, in order to which he must receive a unanimous vote of the members present. Besides pledging himself to live in peace with his brethren in and out of the society, and to do every thing honorable in his power to promote their welfare, he bound himself to abide implicitly by a stringent code of ethics that had been prepared for the guidance of the members in their intercourse with each other and with society at large.*

He hoped to see enrolled under its banners all the leading, reputable, and influential physicians of our country. It was organized soon after he returned to Lexington, where he spent his winters while in the university. He proposed that branches should be established wherever a few well-disposed physicians could be found ready to cooperate in the work of elevating the profession. He looked forward with the liveliest satisfaction to the results which he believed would flow from this association, not only in cultivating fraternal feeling among physicians, but in fostering emulation among them, and thus advancing medical knowledge. And it was one of the pleasing anticipations in which he indulged during his last years in Transylvania University, that as life declined he might go round from one of these societies to another, as a patriarch rejoicing in the improved condition of his children.

Very much that his sanguine and benevolent temper led him to expect from the Kappa Lambda Association doubtless never was realized; and yet the society was not founded in vain. Many local societies were established, which gradually acquired importance and efficiency, and the movement imparted a better tone to the profession throughout our country. In Philadelphia a medical journal, at his suggestion, was put forth in 1825 under the auspices of the association, which at once took rank among the best of our periodical publications. This was the North American Medical and Surgical Journal, which was conducted by Drs. Hugh L. Hodge, Charles D. Meigs, Franklin Bache, B. H. Coates, and R. La Roche, and continued to appear quarterly for six consecutive years, during which time twelve

*La Roche. Op. cit.

volumes were issued. The influence of the society upon the profession, in that city at least, was most beneficial. Before its establishment, it is asserted by Dr. La Roche, the medical men of Philadelphia, "although inferior to none elsewhere in point of intelligence, scientific attainment, or practical skill, so far from fraternizing together, lived in an almost constant state of warfare Quarreling and even worse," the same writer continues, "was not uncommon among them, and now and then street-fights occurred." But under the influence of the society this state of things soon began to give way. "Comparative harmony was restored among its members, and before long, through their influence, among other medical men around them." Nor was this all. "At its meetings much was done to excite emulation among its members and to promote the advancement of medical science." *

The parent society, owing to the jealousies that existed among the professors in Transylvania University, failed from the first to enlist the interest of some of the leading members of the faculty, who never ceased to regard it with distrust. Dr. Dudley and Dr. Caldwell both kept aloof from it, on the ground of its being a secret institution, and in about ten years from its organization the society in Lexington ceased to hold its meetings. "But," to quote again from Dr. La Roche, "the work of reform was in a great measure accomplished. Peace among doctors was comparatively restored, and is now seldom broken; and when the unwelcome event occurs the infractor, whatever be his social or professional position, or the wrong he may have suffered, so far from eliciting the approbation of his medical brethren, is openly and decidedly censured by all. I surely can not be wrong," continues this amiable writer, "when I say that the originator, organizer, and active promoter of a plan of federation among us so complete, so harmless, and at the same time so promising of fruitful results, and which has brought forth such fruit, if not every where, at least in some places, is entitled to the gratitude of every American physician who feels an interest in the honor and dignity of his profession." †

Dr. Brown was elected a member of the American Philosophical Society on the 18th of April, 1800, and the honor was the more esteemed because it was understood to have been conferred through the influence of Dr. Rush and Mr. Jefferson. His turn of mind was

* La Roche. Op. cit. † Amer. Med. Biog.

toward general science, and many of its departments he cultivated with no inconsiderable success. At an early period in its history he delivered in Transylvania University a gratuitous course of lectures on chemistry. He was active in organizing societies for the discussion of questions relating to literature and science, and in promoting improvements in agriculture and the useful arts. He was probably the first American to make known to his countrymen the discovery of the art of lithography in Europe. In a letter to his brother, Mr. John Brown, in which he announces the discovery, he enlarges upon the great future of the invention, and suggests places in Kentucky where suitable stone for the purpose could be procured. It was Dr. Brown who first suggested the process now in use for clarifying or cleansing ginseng, and thus rendering that article fit for the Chinese market. In the course of some chemical researches it occurred to him that steam might be used advantageously in the distillation of spirits, and he had the gratification to learn on trial that his process could be applied with the greatest advantage on a large scale.*

Dr. Brown's death was caused by apoplexy, in the third attack of which he died. His constitution was robust and plethoric, and until assailed by disease of the brain he had for many years enjoyed uninterrupted and excellent health. But in 1826 he experienced an attack of cerebral congestion, which for some time deprived him of the power of speech. During the winter of 1827–8 he was threatened often with a repetition of the disease, as indicated by pain and sense of fullness in the head, attended at times by a loss of memory. In the spring of 1828, on his passage to Europe, and on his return in the autumn of the same year, he again experienced some alarming symptoms. And the following spring they recurred with some severity, after which he recovered so far as to inspire his friends with the hope that he was secure from a repetition of his alarming complaint. But the hope proved illusive. On the 24th of December, 1829, he was seized with symptoms more threatening than before, and died on the 12th of January, 1830, in the sixty-second year of his age.†

Dr. Brown, with whom it may be said our medical literature originated, was in every respect a remarkable man. In stature he was much above the ordinary size of men, and in person comely and imposing. He was of a noble aspect, and his manners were in keeping with his

* La Roche. Op. cit. † *Ibid.*

commanding presence. Gifted by nature with a strong, active, inquisitive mind, his superior natural powers were set off to advantage by an excellent education. A disciplined scholar, whose mind had been enlarged and polished by intercourse with the world; witty, fluent in speech, full of general knowledge and anecdote gathered from extensive travel, he was fitted to shine as a lecturer; and if necessity or taste had turned his attention seriously to the practice of medicine he might easily have attained the first rank as a practitioner. But with all his great native powers and his attainments which were at once varied, showy, and useful, he failed to reach the highest distinction as a teacher. In the school with him were professors of less mind and much less learning, who nevertheless were looked upon by his pupils as profounder and more original thinkers, and whose lectures attracted far more attention. He was indeed a discursive rather than severe student of medicine, and not a little inclined to dodge professional drudgery. For many years during the prime of his life he withdrew, as we have seen, almost entirely from the practice of physic, and consequently when he came to teach it he was compelled to rely chiefly upon the experience of others, owing to which cause his lectures wanted the authority which would have been given to them by a large personal contact with disease. He had no hobbies in medicine, no views peculiar to himself, no cherished theory or system which he felt bound to urge from year to year. In the modesty of his nature he was disposed to claim even less originality than really attached to his lectures; and perhaps what detracted more than any other circumstance from his weight as a teacher was his readiness to abandon old doctrines and still more old plans of practice for something novel. I have never forgotten the expression of delight with which, in the winter of 1824, as his lectures were drawing to a close, he spoke to me of Good's "Study of Medicine" that had just been published in this country. "Ah! sir," exclaimed he, "I shall deliver a very different course of lectures on the practice next winter after studying that great work."

Undoubtedly this fickleness of opinion detracted from the force of Dr. Brown's authority as a teacher. It provoked the criticism of his colleagues, in which some of them indulged liberally; and it can easily be believed that students would not listen with the same interest to doctrines which might be surrendered before another season. Dr. Caldwell, the most scholarly of his associates, on account of this

readiness to seize upon novelties, pursue them eagerly for a little while, and then drop them for something newer still, compared him to "a cur-dog hunting rabbits." The great John Hunter was in the habit of saying that he "held opinions which he was resolved never to give up until he gave up the ghost." If Dr. Brown had possessed some of the pertinacity of the old English surgeon, he would doubtless have passed with his students for a greater man.

Like almost all great men, Dr. Brown was free from affectation. In manners he was simple and natural. No one could be further from the pedantry that was once supposed to be inseparable from our profession, and he was always ready to turn it into ridicule when he encountered it in others. He was once consulting with Dr. Fishback, a popular physician of Lexington, and once elected to a professorship in her university, who inclined somewhat to this weakness. The patient was a child, as I have heard Dr. Caldwell relate the story, and a warm foot-bath was agreed upon as a part of the treatment. Dr. Fishback, as attending physician, gave the directions. "You will immerse your child's lower extremities," he proceeded to say to the mother, "in some tepid water, and afterward use friction freely with a napkin." Dr. Brown saw from the woman's manner that she was lost in what he called this "thicket of hard words," and at once relieved her of her embarrassment by saying, "Bathe your child's feet and legs in warm water, madam, and then wipe them dry with a towel."

Dr. Brown adhered to the ancient custom of sitting while he lectured, literally "filling a chair" in the school. He read well, with a pleasant voice and earnest manner. His lectures announced few theories, but abounded in facts and anecdotes. He had a compendious way of dealing with doctrines that appeared to him absurd. He never stopped to make a labored argument against them; but after a single blow that he considered effectual went on with his subject. Thus, referring to Clutterbuck's theory of fever, of which one of his colleagues was a warm advocate, he would say, if the poison of fever is something that makes its first impression on the stomach, and acts only when the stomach is empty, all that one has to do in a malarious atmosphere is to avoid swallowing his saliva till after breakfast. Of anecdotes he related a great many, and always in the happiest style. His lectures on hypochondria were especially entertaining on this account; and his students expected them from year to year with a

feeling of delight. The valedictory address with which he concluded his course in 1824 was the most impressive that I have ever listened to. He closed it with the following story:

"When I was a student in Edinburgh I heard of a professor in one of the universities of Scotland who was subject to dislocation of the lower jaw. The oftener this accident occurs, as you have been taught by the professor of surgery, the more easily it is brought about. In this case it had occurred so often that it was likely to be induced every time the professor yawned, if he was not on his guard to prevent it; and so it became necessary for him to keep a surgeon constantly near him. This he did in the shape of his body-servant, who had acquired the art of reducing the dislocation. His students had observed that yawning was sympathetic, and when at any time his lectures grew tiresome they had only to set up a general yawning to provoke the same movement in him; whereupon his inferior maxillary was pretty sure to fly from its socket. In the pause that ensued his students, pretending to think that the lecture was concluded, would hurry from the lecture-room, leaving his servant to reduce the luxation. No doubt, gentlemen," he added with a pathos that touched the most thoughtless of his class, and the more because they were the last words of his course, "no doubt you would have been glad, many a time since these lectures commenced, if it had been in your power to exercise the same control over my jaw."

In Dr. Brown was found a "rare combination of those amiable qualities, of those virtuous and cultivated feelings of the human heart, which render character estimable in life, and serve to elevate their possessor above the rest of their fellow-beings."* Associated as these were in him with keen powers of observation, a vast fund of knowledge, a lively humor, and great conversational powers, they drew around him a large number of devoted friends and made him a welcome visitor in every social or scientific circle.

Dr. John P. Campbell.

In 1801 Dr. John P. Campbell, of Flemingsburg, communicated to Dr. Brown the particulars of a case of "*imperforate anus*," which was published in the fifth volume of the Medical Repository. Dr. Campbell performed an operation on the child, a female, three days

* La Roche. Op. cit.

after its birth, at which time the abdomen had become much distended. He found it necessary to extend the incision three inches upward before he reached the end of the bowel. The withdrawal of his scalpel was followed by a copious discharge of meconium, and at the end of a few months the mother assured Dr. Campbell that she observed nothing in the condition of the child different from that of others which she had nursed. The operation was in every respect successful.

Dr. Edward Gaither.

Dr. Edward Gaither, a young physician of Springfield, reported in the Medical Repository for July, 1809, a remarkable case of a female child in whose body after death was found an imperfect fetus. The history of this case, which forms the first article in the eleventh volume of the Repository, is as follows: A female child aged two years was visited by Dr. Gaither on the 7th of April, 1809, supposed to be laboring under ascites, of which she died a few hours after his arrival. The parents, when she was only a month or two old, discovered a hard body within her abdomen, which continued to increase in size. Her health became delicate when she was nine months old, and about nine months before her death she began to decline rapidly, and became emaciated. Her appetite was unimpaired to the last, and she had a longing for ardent spirits, of which she could drink large quantities without becoming intoxicated. Notwithstanding her poor health she had attained at her death the ordinary size of children of that age. Her countenance, which was intelligent, wore a settled expression of gloom and melancholy, imparting to her a peculiarly interesting appearance.

The phenomena revealed by the post-mortem examination were the following: A sac was opened within the abdominal cavity which discharged between three quarts and a gallon of yellow fetid water. "Within this cavity was found a monster, or imperfect child, and also an animal substance of a whitish color. The monster weighed one pound and fourteen ounces. The substance weighed two ounces, was rather of an oval figure, and was connected to the child from which it was taken by a cord that had some faint resemblance to the umbilical." The head was imperfect, and rested upon the breast between the knees. It had neither ears, mouth, nor eyes, but on the side of the head was

a prominence which contained three teeth—one canine and two incisors—of about the size of the teeth of a child two years old. On the back part of the head was hair seven or eight inches long. The body of the monster was seven inches long and ten inches in circumference. The extremities were imperfect. On one hand it had three fingers and a thumb; the other arm was without a hand, but had a nail at the end of the stump. The bones of both thighs had protruded half an inch through the skin at the knees. From the knees to the shoulders the fetus presented considerable perfection of form. The sex was obscure, but Dr. Gaither regarded it as female.

The author of this narrative deemed it necessary to substantiate his statement by the testimony of eye-witnesses, and accordingly the certificates of John Rowan, Thomas J. Cocke, and John Calhoun are appended to his report of the case. The editors refer to several instances of a similar character related by Rzascynski, Bartholine, Schurig, and Lentin, and conclude that a *congenitum monstrum* has not unfrequently "obtruded itself, with all its embarrassing and humiliating accompaniments, upon public notice."

Dr. Joseph Buchanan.

The name of Dr. Buchanan is in the list of professors appointed to chairs in the medical department of Transylvania University in 1809, and he, at least, appears to have prepared himself to discharge the duties of his chair. In 1812, after "the school had miscarried," he published an octavo volume of three hundred and thirty-six pages, entitled "The Philosophy of Human Nature," comprising a series of lectures introductory to his course. The volume was printed for the author by John A. Grimes, at Richmond, Kentucky, and presents an appearance quite agreeable to the eye, the paper, typography, and binding comparing well with books published in our great commercial centers at that day. It was not given to the world until the author had "determined to relinquish the unprofitable pursuits of literature and science for others more humble and lucrative." Nor was the success of his volume of lectures greater than that of the school in the interest of which it was composed. Not only did it fail to bring the author any pecuniary reward for his labor, but instead its doctrines brought upon him a good deal of criticism.

In his preface he announces that the authors from whom he had

borrowed most were Locke, Hartley, Hume, and Darwin. This was enough to raise a doubt as to his soundness on points of doctrine about which serious men feel the deepest concern, and the reader had not far to go before he found that the author was an advocate of materialism. "Mind," he says on the third page of his lectures, "is merely an organic state of matter, such as constitutes the human brain." And again, in his first chapter, he says, referring to the stupidity of mind that follows pressure on the brain, "This proves to me that there is no spiritual mind in man possessed of an original activity, able to feel and think within itself, or to commence thought, sentiment, and motion."

The avowal of these opinions shocked the feelings of the reading community and rendered their author unpopular. And yet when his language is examined closely it is seen that he does not deny the separate existence of mind, nor assert that mind and matter are "synonymous terms." What he insists upon is that we are unable "to acquire a direct and complete knowledge of either mind or matter, or to decide that they are radically the same or radically different." When he seems to deny the existence of a spiritual mind in man he merely asserts that there is no such mind possessed of "an original activity;" that mind owes its power of outward manifestation to the brain—a proposition which would now meet with universal acceptance. Still the expressions "mind is an organic state of matter," "a peculiar combination of material elements," "mind appears to be itself an attribute of matter," turned the public strongly against his book.

It is impossible, however, to deny that Dr. Buchanan pursues the difficult subject of his lectures in a candid and philosophical spirit, and in its discussion exhibits an acute and vigorous intellect. In following his speculations one is continually reminded of the views which have been rendered so popular by the writings of Huxley, Tyndall, Carpenter, and Herbert Spencer. The followers of these able writers indeed will be surprised to see how often their doctrines have been anticipated by Dr. Buchanan in this work. The lectures form but a fragment of a work which he meditated on the subject. If he had continued to apply himself to the study, and had completed the system of which he has here given a sketch, it would doubtless have embraced many of the principles of the current psychology of our times. Thus in the following passage how nearly are the phrases the same with those used by most of the present writers on the brain:

"Extending our observations on mind, whose existence, proximate difference from matter, and constant connection with it have been remarked, we shall perceive that the conditions of this connection with certain organic states of matter amount to an actual subordination and dependence. Those very acts and attributes of mind from which we have inferred its being can not be exercised without concurring actions in the conjoined organic substance. Perception, feeling, thought, volition have never been performed by any mind without a simultaneous corresponding operation in the brain where it resided; and the mental act in those cases which admit of a development, and probably in all others, proves to be secondary and consequential to the physical. The mind itself therefore must be subordinate and dependent—not the primary agent using the organic matter merely as a convenient instrument in its transactions."

The subjects discussed by him in the successive chapters of his work are an outline of physiology; the nature and preservation of animal life; excitability, excitement, and renovation; the different kinds of excitement and their laws; unity of excitement and the common stimulants of life; association; ideas, their associations and abstractions; sentiments; temper and temperament; belief; volition; and in an appendix additional remarks on association, and conjectures on the physiology of the brain. In every chapter there is an amount of original thought altogether remarkable, whatever may be the judgment respecting the correctness of many of the opinions. Proofs of a clear, vigorous mind are afforded by every page. Indeed "The Philosophy of Human Nature" may be pronounced a work of genius, and after all that has been written on the subject the student of physiology will read it with interest.

Dr. Joseph Buchanan was born in Washington County, Virginia, on the 24th of August, 1785. When ten years old his father removed with him to Tennessee, where he remained until 1804, when he came to Kentucky for the completion of his education. On the banks of the Cumberland, where his boyhood was passed, he experienced the hardships and privations of a frontier life, and enjoyed but few opportunities for acquiring an education. But in 1802, when seventeen years of age, he went to a grammar-school near Nashville, where in five months he gained by his facility in acquiring knowledge the reputation of a great genius. Thus early he gave proofs of remark-

able inventive powers, and devoted much time while at this school to an improvement which he thought he had discovered in the machinery of mills; but finding on a more careful examination that his plan had incurable defects, he gave it up. In nine months, while at this school, he is said to have "mastered the Latin language." One of the points in which he especially distinguished himself was original composition. So fond was he of originality, it has been alleged, that in his essays he would never write on a subject on which he had ever read any thing.*

In 1804 his guardian and nephew, Major Edmondson, sent him to Transylvania University, where he formed the acquaintance of Dr. Blythe, Dr. Brown, and Dr. Overton, all of whom became his friends. His rustic appearance when he reached Lexington, then the seat of the most polished society in the western country, and his diffident manner, rendered more embarrassed by recent illness, made him pass at first for a simpleton; but in a little while his proficiency in mathematics raised him to the first rank in the institution. It is related of him that in studying Ferguson's Optics he detected an error of the author in regard to the focal distances of lenses, and when his professor disputed his position wrote a defense of it, and proposed to demonstrate its truth on the blackboard. The teacher, still adhering to the text of the author, absurdly refused to permit the proposed demonstration. His gifted and indefatigable pupil during the vacation went to work and published a pamphlet of twenty pages, which, if it made no reference to the dispute about the lenses, demonstrated his powers as a mathematician. In this tract he attempted to show some errors in the philosophy of Newton.

The year after entering Transylvania University he commenced the study of medicine with Dr. Samuel Brown, who held a chair in the institution. But his inventive genius continued active in the midst of his medical studies, and in the year in which he entered upon them he constructed a new musical instrument, consisting of glasses of different chemical composition. About the same time he announced a conception, not yet realized, of making music by light—the sounds to be elicited by means of "harmonific colors luminously displayed."† It was necessary to the perfection of his invention that he should study colors and the laws of vision, as well as music; in the course

* Collins's History of Kentucky. † *Ibid.*

of which he ascertained that in his fundamental principles he had been anticipated by others, which extinguished "his hopes of immortality" from this discovery. Before abandoning it, however, he wrote an essay of eighty pages on the subject.

After reading medicine with his accomplished preceptor nearly two years he went to Port Gibson, Mississippi, and engaged in the practice, purposing so soon as he could command the means to attend a course of lectures in Philadelphia. With characteristic activity of mind he began to write as soon as he engaged in practice, and in a few months had composed a treatise of a hundred and seventy-five pages on fever. This he took to Philadelphia in the autumn of 1807, hoping with the proceeds of its publication to defray the expenses of a winter in that city. The professors must have been impressed with the self-reliance as well as the literary culture of the young backwoodsman. Rush and Barton, it is said, spoke highly of his essay; but the author failed to find a publisher, and, not having the means necessary to sustain him in the city, returned to the West in the spring after a single course of lectures in the University of Pennsylvania. He walked from Philadelphia to Lexington in twenty-seven days, reaching home, says his biographer, "empty in purse, but improved in health," which had suffered by his residence in Mississippi from an attack of remittent fever. Soon after his return to Lexington, where he determined to settle, the degree of A. B., at the instance of Dr. Blythe, was conferred upon him by Transylvania University.

Hardly had he got settled in Lexington before he conceived the idea of becoming a teacher of medicine, if indeed it was not with that view that he selected Lexington as his home. A medical department had existed for some years in the university there, but its existence was merely nominal. Several professors had been appointed in succession, but, except the short course already mentioned by Dr. Ridgely, no lectures had been delivered. Dr. Buchanan, full of zeal and self-reliance, though only twenty-four years old and not yet a graduate in medicine, engaged earnestly in the work of organizing a medical faculty. The trustees favored the project so far as to fill several chairs. He was placed in the chair of the institutes of medicine, which doubtless was his choice, and the one best suited to his taste and character of mind. Two of his colleagues were Dr. James Overton and Dr. B. W. Dudley, and it is noteworthy that of

these he had a much higher opinion of Overton, who never succeeded as a teacher, than of Dudley, who became one of the first teachers of his day. The plain, solid parts of the one were not a match, in his mind, for the showy rhetoric of the other. But the combined talents of the faculty were unavailing to secure the success of the enterprise; and as Dr. Buchanan was too much engrossed by his inventions and in preparing the lectures spoken of elsewhere to give any time or attention to getting business, he was ready at the end of two years to abandon medicine for something more lucrative. His book, of which he had a thousand copies published, was no less a failure than the school, and he renounced science and medical teaching together.

We next find him engaged, for a short time, in a strenuous effort to introduce the Pestalozzian system of education into Kentucky; but he soon grew tired of this hobby, and in the thirty-second year of his age entered upon the study of the law, which, as before in medicine, he began to teach as soon as he was prepared to practice it. While occupied with all of these diversified pursuits he was editing a political newspaper, and writing elaborate articles on various subjects relating to literature, science, and political economy. Among other topics materialism, of which his lectures caused him to hear much, came in for a share of his attention, and he wrote a review of his principles intended to show that while his former argument remained untouched, one might by a "deeper analysis arrive at a system of universal spiritualism!"

And so he labored on without rest, "wearing out his days," as he expressed it, "in hard study, without deriving much profit from it." It was while performing this unrequited labor perhaps that in one of his letters he uttered the complaint, "I was born in the slaughter-house of genius, and have struggled on the block from the hour of my nativity."

His inventive genius was active in the midst of all his studies, and he suggested a number of improvements in the steam-engine, one of which he thought, at first, from its superior lightness, might be applicable to aërial navigation! On trying the experiment, however, he found that errors had been committed by English authors, whose statements in regard to it he had accepted as correct, and had to relinquish the project of navigating the air; but about the year 1824 he applied his engine to a car, and had the satisfaction of seeing

it "run through the streets of Louisville in the presence of an astonished throng of spectators."

While delivering lectures on law, editing newspapers, and inventing new motive powers, he found time to publish an English grammar, which is said to have been valuable for its simplicity. Dr. Buchanan had no high opinion of schools or teachers. He says in one of his letters, written in his college-days, "Schools and colleges (at least such as I have seen) were only made for the dull and idle. If a youth can learn, and will do it, he has only to provide himself with good books and perhaps get some assistance in the rudiments of things." And in another he says, "A young man who has not genius and application enough to master any thing in books without the feeble assistance of a professor might as well be placed at the plow-tail at once. But a student will gain considerable advantage from attending the practice of an eminent physician. The instructions you get from a private teacher amount nearly to nothing. I never got an idea from any of my instructors."

The life of this extraordinary man closed at Louisville in 1829. In many respects, as remarked by one of his biographers, it affords an instructive moral.

With all his great powers of mind he made himself master of no profession, but wasted his life in desultory labors. He lived in continual pecuniary embarrassment, when he might easily have acquired wealth; and died comparatively indifferent to fame, when steadiness of purpose would have given him a name among the first physicians, lawyers, philosophers, or inventors of his age.

During many years Dr. Buchanan took a deep interest in politics, as a Jeffersonian Democrat, a friend of Mr. Clay, and a supporter of the Old Court party; but in the enthusiasm excited by the news of the battle of New Orleans he placed in the office-window of the Palladium, of which he was the editor, in Frankfort, when illuminating for the victory, "Gen. Jackson next President."

Dr. Lewis Rogers, in his sketch of the medical history of Kentucky, describes Dr. Buchanan as a man of a slender and flexible form, with a massive head and thoughtful, intellectual face.

Dr. Ephraim McDowell.

Dr. McDowell, as has been remarked elsewhere, was one of Dr. Brown's fellow-students in Edinburgh, but seems to have been less aspiring than his young countrymen, Hosack, Davidge, and Brown. Nevertheless he has left a name which is likely to be as durable and resounding as that of any other American physician or surgeon. He was born in Rockbridge County, Virginia, on the 11th of November, 1771. His father, Samuel McDowell, was a man of note and influence in the state, and was honored with many positions of trust. In 1783 he removed to Kentucky, settling near Danville. He was appointed judge of the District Court of Kentucky, and took part in organizing the first court ever formed in the state.

Ephraim was one of a family of twelve children. The maiden name of his mother was McClung. But little is known of his early education, and the few brief articles that he wrote after his surgical operations had rendered him famous show that in some respects it must have been neglected. On quitting school he entered upon the study of medicine with Dr. Humphreys, at Staunton, the preceptor and brother-in-law of Dr. Brown, and after reading two or three years under his direction repaired to the University of Edinburgh, of which Dr. Humphreys was a graduate. Of the teachers in Edinburgh at that period the one of greatest genius and the most attractive to McDowell was John Bell, who, though not a professor in the medical school, drew around him large private classes. McDowell was charmed with his eloquence, and is said to have conceived the thought of ovariotomy from some suggestions thrown out in his lectures.

Like his countryman Brown, McDowell probably left Edinburgh without a diploma. This supposition is rendered almost certain by the fact that the honorary degree of M. D. was conferred upon him by the University of Maryland in 1825.* Davidge, his old friend and contemporary at Edinburgh, would certainly never have entertained the thought of conferring such a degree upon a graduate of his *alma mater*. But if he did not bring home with him the highest honors of that renowned university, he came back with what was of far greater value—the anatomical and surgical knowledge to place him in the front of his profession. He returned to Kentucky in 1795, and settled at Danville

* Gross. Am. Med. Biog.

among the people who had known him from his boyhood. His success was immediate, and he maintained it by devotion to his business. In a little while nearly all the important surgical operations for hundreds of miles around were performed by him; and this continued till Dudley returned from Europe many years later to share with him the empire in surgery.*

In 1802, fully established in his profession, and with an income which rendered him independent, he married Sarah, daughter of Governor Isaac Shelby. In 1809 he performed his first operation for the removal of an ovarian tumor. The subject was Mrs. Crawford, of Green County, Kentucky, and in 1817 he wrote out for the Eclectic Repertory a short history of the operation, which he believed was without a precedent in the annals of surgery. He says in his report that he had "never seen so large a substance extracted, nor heard of an attempt or success attending any operation such as this required."

Since ovariotomy began to be repeated with so great success by other surgeons the operations of Dr. McDowell have acquired very great interest, and attempts have been made to rob him of the honor of having first performed it; but Dr. Gross, who has been at great pains to investigate the matter, declares that it is unquestionably due to him. The operation of L'Aumonier, which it was claimed had preceded McDowell's, was one merely of puncturing an abscess of the ovary, and not its extirpation. Still less claim have the operations of Dzondi and Galenzowski, referred to by Dr. Atlee, to take precedence of McDowell's. That of Dzondi was performed not on a female, but on a lad twelve years old, and the tumor consequently was not ovarian. It was drawn out from the hypogastric region through an incision in the walls of his abdomen, and after inducing mortification in it by means of long tents it was extracted piecemeal with a pair of broad forceps. In 1816, six years after McDowell operated, Dzondi related other examples of cure in the same way, and expressed the opinion that in certain favorable circumstances a similar operation might be performed in ovarian dropsy.

The operation of Galenzowski was performed eighteen years after

* Dr. Gross, in his memoir of McDowell, says that Dr. Brashear, of Bardstown, performed the first successful amputation at the hip-joint in the United States, early in the present century. He would have proved doubtless a formidable rival of the great ovariotomist had he not soon after this achievement, and while still a young man, given up his profession for a plantation in Louisiana.

McDowell's first case of ovariotomy, and besides was not an extirpation of the ovary. The tumor in his case was large, multilocular, and so firmly attached to the posterior wall of the abdomen as to render its extraction impossible.* The surgeon therefore made a large incision into its cavity, tore up its cells with his fingers, evacuated the contents, and fastened the sac to the external wound by a ligature. Portions of the sac came away at intervals, and on the seventieth day the patient was discharged, having only a small fistule in the hypogastric region.†

Mr. Spencer Wells, it appears, is still disposed to claim for Great Britain the honor of this operation. According to Dr. Atlee, he insists that ovariotomy was performed near Glasgow, in 1701, by Dr. Robert Houstoun, and that consequently the operation originated with British surgery on British ground. But on examination this case turns out to have been nothing more than an incision into a diseased ovary and the evacuation of a large quantity of gelatinous fluid.‡

From all the evidence on the subject there can not be a doubt that the credit of introducing ovariotomy belongs to Dr. McDowell. But his priority in the operation was not the only point which has been in dispute respecting it. Dr. McDowell seems to have kept no notes of his cases. He was reluctant to publish a history of his operations, and when induced at last to draw up the meager account which was sent to the Eclectic Repertory he was obliged to rely upon "his ledger for his dates and his memory for the facts." It appeared an improbable story as it was carried abroad. Surgeons generally hesitated to accredit its truth. The quarter from which it proceeded was well calculated to create doubts as to its authenticity. The style in which it was related tended in no degree to allay incredulity. Dr. McDowell was not a clear, much less a scholarly, writer. His history was confused, if not contradictory. He spoke of his first patient as having come to his house to undergo the operation, and then of his visiting her a few days afterward. The critics, already inclined to disbelief, seized upon these apparent discrepancies to cast doubt upon the narrative. The comments of Dr. James Johnson, of the Medico-Chirurgical Review, expressed what no doubt was in the minds of most foreign readers, as well as of many readers at home, on the subject.

* Gross. Am. Med. Biog. † *Ibid.* ‡ Jackson. Memoir of McDowell.

Dr. Johnson says, "Three cases of ovarian extirpation occurred, it would seem, some years ago in the practice of Dr. McDowell, of Kentucky, which were transmitted to the late John Bell, and fell into the hands of Mr. Lizars. We candidly confess that we are rather skeptical respecting these statements, and we are rather surprised that Mr. Lizars himself should put implicit credence in them. A woman, supposed to be parturient, was visited by Dr. McDowell, at the instigation of two physicians who considered her in the last stage of pregnancy. Dr. M. found the uterus unimpregnated, but a large tumor in the abdomen, movable from side to side. The woman traveled sixty miles on horseback to have an operation performed. Dr. Mac made an incision, nine inches in length, parallel with the rectus abdominis, and right into the abdominal cavity. The tumor appeared in view, but could not be removed. A ligature was thrown round the Fallopian tube, the tumor cut open (found to be the ovaria), and fifteen pints of dirty, gelatinous stuff extracted; 'after which he cut through the Fallopian tube and extracted the sac, which weighed seven pounds and a half.' As soon as the external opening was made the intestines rushed out upon the table, and they could not be replaced till after the operation was performed, which lasted twenty-five minutes! The wound was sewn up by means of the interrupted suture, assisted by means of adhesive plaster. Dr. Mac visited the patient *at the end of five days*, though she had come to his own residence to have the operation performed!! He found her engaged in making her bed! She soon returned to her native place quite well. *Credat Judæus, non ego.*"

And no wonder; the story was so strange that not a few of our own physicians treated it as apocryphal.

Dr. Johnson goes on further to say, "The second case is little less extraordinary, if not incredible. A negress had a hard, fixed, painful tumor in the abdomen. Dr. Mac placed her on a table, laid the abdomen open, inserted his hand, and found the ovarium very much enlarged, painful to the touch, and firmly adhering to the bladder and fundus uteri. 'To extract *this*' (two ovaria), he thought, 'would be instantly fatal;' 'but by way of *experiment*,' says the doctor, 'I plunged the scalpel into the diseased part, when some gelatinous substance, as in the above case, with a profusion of blood, rushed to the external opening, which I conveyed off by placing my hand under

the tumor, suffering the discharge to run over it.' A quart or more of blood escaped into the abdomen. The same dressings and the same success as in the first case. We can not bring ourselves to credit this statement."

Such incredulity, so bluntly expressed, had one happy effect—it compelled Dr. McDowell, in defense of his character for integrity as well as of his professional reputation, to report other cases of ovariotomy which he had performed, with fuller and more satisfactory details; and the editor of the Medico-Chirurgical Review, with true manliness, made honorable amends to the backwoods surgeon in the following terms: "A back settlement of America—Kentucky—has beaten the mother-country, nay, Europe itself, with all the boasted surgeons thereof, in the fearful and formidable operation of gastrotomy with extraction of diseased ovaria. In the second volume of this series, page 216, we adverted to the cases of Dr. McDowell, of Kentucky, published by Mr. Lizars, of Edinburgh, and expressed ourselves as skeptical respecting their authenticity. Dr. Coates, however, has now given us much more cause for wonder at the success of Dr. McDowell; for it appears that out of five cases operated on in Kentucky by Dr. McDowell four recovered after the extraction and only one died. There were circumstances in the narratives of some of the first three cases that raised misgivings in our minds, for which uncharitableness we ask pardon of God and of Dr. McDowell, of Danville. The two additional cases now republished (for it appears that the cases were published, though in a very unsatisfactory form, in the American Eclectic Repertory) are equally wonderful as those with which our readers are already acquainted."*

Dr. Johnson has this concluding paragraph on the subject, which shows how hard it was for the editor to do full justice to the skill of the American surgeon: "When we come to reflect," he says, "that all the women operated on in Kentucky, except one, were *negresses*, and that these people will bear cutting with nearly if not quite as much impunity as dogs or rabbits, our wonder is rather lessened, and so is our hope of rivaling Dr. McDowell on this side of the Atlantic."

Dr. Lewis Rogers says, speaking of the claims of Dr. McDowell to having originated this operation, "In a conversation which I had, in 1865, with a number of eminent surgeons of Great Britain, among

*Med. Chi. Rev., Oct. 1826.

whom may be mentioned Mr. Spencer Wells, Mr. Baker Brown, and Sir James Syme, no one had any reserve on the subject except Mr. Syme. While he did not deny the claim of Dr. McDowell, he did not admit it." But he adds that "in a recent article in the Edinburgh Review on the progress of medicine and surgery the operation of ovariotomy is fully discussed without the mention of Dr. McDowell. Mr. Spencer Wells is made the hero of the operation."*

Dr. McDowell is known to have operated for diseased ovaria thirteen times, and six out of seven of his first cases terminated favorably. How large a proportion of the subsequent operations was successful there are now no means of determining. Dr. J. D. Jackson states, in his valuable memoir of Dr. McDowell, that two resulted favorably, making eight recoveries in all.

Dr. McDowell experienced much more than the ordinary trouble of discoverers in establishing his claims to the respect of men on account of ovariotomy. To what has already been related is to be added the statement, which at one time was current, that his first operation was actually performed not by himself, but by his nephew, Dr. James McDowell. This induced Dr. M. to address a card to the profession, in 1826, in which he declares that his nephew, who was also his partner in business, attempted to dissuade him from the operation, and that he only consented on the morning on which it took place to be present and assist in it. He then goes on to say that having himself marked with a pen the course of the incision to be made, his nephew executed it in part; but that he then took the knife and completed the operation, as reported in the Eclectic Repertory. Finally he adds, with great modesty, that he was inclined to attribute the success of the operation more to accident than to his skill or judgment; but that, having repeated it twice again with success, he deemed it due to his own reputation and to suffering humanity to announce the result to the profession. The following is the history of his first case, which will remain ever memorable in the annals of surgery:

"In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pain similar to labor-pains, for which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy that two physicians who were consulted in her case requested my aid

* Trans. Ky. Med. Soc. 1873.

in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination *per vaginam* I found nothing in the uterus which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted, nor heard of an attempt or success attending any operation such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment which I promised to perform if she would come to Danville (the town where I live), a distance of sixty miles from her place of residence. This appeared almost impracticable by any though the most favorable conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M. D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches long, from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibers of the above-named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during the journey. The tumor then appeared in full view, but was so large that we could not take it away entire. We put a strong ligature around the Fallopian tube near to the uterus; we then cut open the tumor, which was the ovarium and the fimbriated part of the Fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous-looking substance; after which we cut through the Fallopian and extracted the sac, which weighed seven pounds and a half. As soon as the external opening was made the intestines rushed out upon the table, and so completely was the abdomen filled by the tumor that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape, after which we closed the external opening with the interrupted suture, leaving out at the lower end of the incision the ligature which surrounded the Fallopian tube. Between every two stitches we put a strip of adhesive plaster, which by keeping the parts in contact hastened the healing of the incision. We then

applied the usual dressing, put her to bed, and prescribed a strict observance of the antiphlogistic regime. In five days I visited her, and much to my astonishment found her engaged in making up her bed. I gave her particular caution for the future, and in twenty-five days she returned home, as she came, in good health, which she continues to enjoy."*

It is upon these operations that the fame of Dr. McDowell as a surgeon will chiefly rest; but his skill was exhibited equally in other capital operations. He acquired at an early day distinction as a lithotomist, which brought to him patients from other states. One of these was James K. Polk, of Tennessee, afterward President of the United States, who submitted to the operation in the autumn of 1812. The result was happy, and I remember hearing a letter, from the patient to the surgeon, read by Dr. Gross to the Kentucky Medical Society in 1852, abounding in expressions of the warmest gratitude for the relief afforded by it. During his life he performed lithotomy thirty-two times without the loss of a patient.† He operated always by the lateral method, and used the gorget for many years in opening the bladder; but at a later period he employed the knife instead.

In 1828 Dr. McDowell became a member of the Episcopal Church at Danville, in the communion of which he died on the 25th of June, 1830. His remains were interred in the family burying-ground of his father-in-law, Governor Shelby, and marking the spot where they repose is a plain marble slab, with the simple inscription of his name, "Ephraim McDowell."

In personal appearance, as well as in manners, Dr. McDowell was prepossessing. He was nearly six feet high, a little inclined to corpulency, of a florid complexion, with dark-black eyes. In temper he was genial and cheerful, kind-hearted and generous. He had a taste for music, especially comic pieces, which he sang with fine effect, accompanying his voice sometimes with the violin. In society he was unassuming, frank, affable, and natural. His temperament inclined him to action rather than to study, though he had many books and was all his life a reader of medicine. Engaged during many years in a practice which included ovariotomy among its results, he has left no record of his varied experience except the two short papers in the Philadelphia Eclectic Repertory.‡

* Eclectic Repertory, vol. 7, p. 242. † Gross. Am. Med. Biog.

‡ Vol. 7, p. 242; vol. 9, p. 546.

Dr. Henry McMurtrie.

On the fourth day of February, 1819, Henry McMurtrie, M. D., deposited in the office of the District of Kentucky the title of a book in the following words: "Sketches of Louisville and its environs, including, among a great variety of miscellaneous matter, a Florula Louisvillensis; or a catalogue of nearly four hundred genera and six hundred species of plants that grow in the vicinity of the town; to which is added an appendix containing an accurate account of the earthquakes experienced here from the 16th of December, 1811, to the 7th of February, 1812."

The book with this long title is a small octavo volume of two hundred and fifty-three pages, and was printed in Louisville, by S. Penn, jr., in July, 1819. In his preface the author says his sketches "were written under the pressure of sickness and in the presence of other powers equally tremendous." He meditated in the beginning a much more elaborate work, but was arrested in its preparation by the untoward causes alluded to. His friends urged him to arrange the few notes he had taken, and this small volume of sketches is the result. It will be referred to with interest by the curious, and will perpetuate the author's name with Louisville as the writer of her first history.

Among the points which Dr. McMurtrie hoped to establish by meteorological observations was the mild climate of the Ohio Valley as compared with that of parallel latitudes east of the mountains—an opinion which had been previously advanced by Volney and other travelers, but which the thermometer has effectually overthrown. The migration of paroquets up the Ohio and the Mississippi so far north, which was regarded by Dr. McMurtrie as evidence of this superior mildness of climate, is known to have reference to the food of those birds. It is now well understood that they make these long northern journeys not on account of the mild winters, but in search of the cockle-burr, their favorite article of diet, which abounds along these rivers.

Dr. McMurtrie's description of the organic remains at the Falls of the Ohio can not be commended for its scientific accuracy; but it evinces a taste for natural history not very common in the profession at that day. Geologists will smile when they read of creatures of existing races being found petrified in these ancient rocks. Dr. M.

himself was at first skeptical about the petrifaction of a buffalo's horn and head. He says that "he was for many months very dubious how to consider a fossil, resembling a horn of the above-mentioned animal, which he had found in one of the streets of Jeffersonville, until he met with a citizen who told him that he had some time before taken out from between the first and second strata of rock in the Falls the entire skull of a buffalo, with one perfect horn fixed in it!"

In a block of limestone Dr. McMurtrie fancied that he had detected "a piece of the skin of a shark;" at another point he found what he took to be young cocoa-nuts petrified; and he enumerates ammonites and oysters, the "Bufo rana," or toad, and the "Rana pipiens," or spring frog, as among the fossils imbedded in these ancient formations! The head and neck of a snapping-turtle, he says, was brought to him "petrified, and so perfect as to leave not the shadow of a doubt respecting its nature!" Not less wonderful is his account of some mastodon bones obtained near Louisville. In the cavity of one of these, he was assured, a fatty matter was found when broken open, with which a Mr. Speed, who was present, "positively greased his shoes!" He had information from explorers of a large body of coal between Louisville and Cincinnati, and of another on Silver Creek, which he supposed would soon come into general use as fuel, but which have never yet come to light.

But if, in all matters relating to geology, Dr. McMurtrie was overcredulous, he writes with great intelligence about disease. He was impressed as early as 1819 with the danger to which Louisville was exposed from pestilential fevers, owing to the masses of decaying organic matter in its streets and suburbs. He looked upon the irruption of yellow fever as imminent. During the months of July, August, and September, he says, "so strongly are the inhabitants predisposed to this disease, by the joint influences of climate and the miasm of marshes and decayed and decaying vegetable and animal matter, that they may be compared to piles of combustibles which need but the application of a single spark to rouse them into flame. Let me not be accused of alarming people unnecessarily," he adds, "for I write this under a solemn conviction of my own mind that unless greater attention be paid to cleanliness in every possible way Louisville can not long escape a signal visitation from this destroying angel."

Yellow fever never came as an epidemic, but a few years later the town was visited by outbreaks of a bilious fever almost as fatal, of which the history will be given hereafter. Dr. McMurtrie had seen cases of this fever so malignant that, in his judgment, it might without impropriety have been styled yellow fever.

He states the interesting fact that at the time when he wrote the children dying in Louisville to the adults were in the proportion of two to one. This fearful infant mortality was attributed to worms and cholera infantum. Small-pox was the most fatal disease of adults at that time.

In this connection Dr. McMurtrie makes a warm appeal to the authorities of Louisville in behalf of a hospital. Not a hut or shelter of any kind was then afforded by the town for the homeless victims of disease. The sick poor were cast upon the charity of the citizens, and of these the boats brought numbers to the town in addition to those prostrated by its malarial fever. His appeal met with a liberal response not a great while afterward in the shape of the Marine Hospital.

As to "seasoning," as it is termed, Dr. McMurtrie remarks correctly that "the idea is futile." A severe attack of fever, so far from affording an immigrant any immunity against a second attack, rather predisposes him to it.

To affirm that Louisville is a healthy city, he admits, would have been absurd at that day; but he insists that it was much more so than "the thousand tongues of fame" would have made it; and as the causes of sickness were such as might be removed, he was confident that the day was coming when it would cease to be looked upon as "the grave-yard of the western country."

When Dr. McMurtrie wrote his sketches Louisville had no paupers. He says, "I have never yet seen in the streets of Louisville what is properly denominated a beggar." The town at that time had a neat market-house, kept in good order, "and well supplied, two days in the week," with every thing that could be desired in a similar place.

The account given by Dr. McMurtrie of the earthquakes of 1811 and 1812 is full and graphic, and adds much to the interest of his sketches. In thirteen weeks the number of shocks felt in Louisville was eighteen hundred and seventy-four, those of the greatest severity having occurred on the 22d of December, 1811, and the 9th of February

following. Most were so slight as not to be noticed by the careless observer; but some were of such violence as to threaten the destruction of the town. He records eight of these, felt in December, January, and February. In the little time they continued buildings oscillated largely, grinding against each other, the walls splitting and beginning to yield, chimneys, parapets, and gable-ends breaking in various directions and toppling to the ground. There were ten of the second rate of violence, but severe enough to excite alarm. Of the third rate there were thirty-five, which, though moderate, "alarmed people generally." Even those of the sixth rate, which amounted to sixteen hundred and sixty-seven, caused "a strange sort of sensation, amounting sometimes to giddiness," though they were so slight as only to be perceived by the vibration of bodies around.

Dr. McMurtrie hints at some foibles which characterized the society of Louisville in his day. The great body of the people, he complains, "were absorbed in the business of adding dollar to dollar." To know how to make money appeared to him to be the grand object of the citizens. If a boy knows that, he said, the people think he knows every thing that needs to be learned. All else they deemed superfluous, and he adds, somewhat cynically, "that were the arts and sciences to appear in the streets in the persons of Phidias or Aristotle, Canova or Newton, clothed in the garb of poverty, they would be jostled into the kennel." But while such were the people of Louisville generally sixty years ago, there was, he said, "a small circle within whose magic round abounded every pleasure that wealth, regulated by taste, could produce or urbanity bestow."

From these and other expressions in his work it is plain that the life of Dr. McMurtrie had not been prosperous. The tone in which he writes is that of a disappointed man. He is described by those who knew him toward the close of his life as "a man of an ungainly, neglected appearance." His devotion to science and letters was not appreciated, and instead of the complete history of Louisville which he had hoped to prepare, sickness and other misfortunes compelled him to content himself with a volume made up, as he expressed it himself, "of shreds and patches." Nevertheless it was dedicated to His Excellency, James Monroe, President of the United States, and will outlive many a work of higher pretensions.

LIST OF MEMBERS.

ADAIR COUNTY.

WOODBRIDGE, J. E., Neatsville.

BOYLE COUNTY.

BROWN, W. A., Parkersville.
CALVERT, G. B., Perryville.
COWAN, G., Danville.
DUNLAP, R., Danville.
ERWIN, GEO. T., Danville.
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